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ENVIRONMENT, RACE, AND GOVERNMENT IN SOUTH SEA ISLANDS

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THE isolation of clusters of small islands in the Pacific Ocean, nearly all of them in the tropics, the economic or strategic value of many, and the primitive nature of the inhabitants, have given rise to various types of government.

Various forms of government in the Pacific Islands have arisen from the diversity of circumstances under which they were acquired by European nations and by the United States. Among significant factors involved were the method and terms of acquisition, international and treaty limitations, wide differences in economic development, the nature of the local resources and the racial composition of the people. There are more government administrations in the South Sea islands than in any other land area the same size in all the rest of the world. The official designations—Territory, Colony, Protectorate, Mandate, Trust Territory, Condominium, Military Government—denote various types of administration.

Fiji is a Crown Colony, governed by Great Britain through the British Colonial Office in London. The Legislative Council of that archipelago emphasised, as recently as in the July session in 1946, the Deed of Cession of the islands in a motion which passed unanimously: "That in the opinion of this Council the Government and the non-Fijian inhabitants of this Colony stand by the terms of the Deed of Cession and shall consider that document as a charter of the Fijian people." It was felt necessary to reaffirm the charter because it protected the Fijians. The greatest problem of the government in Fiji is to maintain a balance of power politically and economically among the Fijians, Europeans, and East Indians in the islands.

The remaining islands in the Pacific governed by Great Britain alone are administered through the British Colonial Office and the High Commissioner for the Western Pacific who resides in Suva, Fiji. Pitcairn only recently has been brought directly under the administrative responsibility of the Western Pacific Commission. That lone speck of land, visited by

ships two or three times a year, was left very much to itself. The administration of the Solomon Islands is divided between Great Britain and Australia ; the British islands are a Protectorate. A Trusteeship Agreement, submitted by Australia for the mandated territory of New Guinea, has been approved by the General Assembly of the United Nations, and New Guinea is now a Trust Territory under the International Trusteeship System, with Australia as the administering authority. A Trusteeship agreement for Western Samoa submitted by New Zealand has been similarly approved. Eastern Samoa is under a Military Government of the United States. The government of the United States has concluded a strategic area Trusteeship Agreement for the islands in Micronesia formerly mandated to Japan, which are now under military occupation by the United States. French islands in the Pacific comprise two main units : New Caledonia and Dependencies and French Oceania (Établissements Français en Océanie). The New Hebrides are a Condominium under the governments of France and Great Britain. This government is frequently referred to with more truth than euphony as the ' pandemonium.' It has two sets of laws, three currencies, and two kinds of traffic regulations (the French keep to the right and the British to the left). The Territory of Hawaii which was annexed by the United States in 1898 does not brook any title of ownership. It was admitted to partnership in the Union by reciprocal action and is an integral part of the United States.

Autocratic Chieftainship

In the old days in Pacific islands, government in Polynesia centred in the chiefs who ruled nominally as autocrats. In fact, their power was curbed by a variety of mechanisms and types of social pressure. Paramount chiefs ruled districts the extent of which fluctuated with the fortunes of war and of intrigue. Before reaching decisions they frequently sought the advice of trusted councillors. These in many instances were priests who were called on for omens.

Commoners owed their chiefs allegiance, support in war, labour, and tribute of food and other material goods. A chief, for example, received part of the catch of fish made by a commoner. I was chatting with Tufele, a Samoan chief, one afternoon when two women passed along with a catch of shell-fish which they had obtained on the reefs during work all the earlier part of the day. As they approached and saw the chief, they edged a little farther towards the beach and kept the catch hidden. As they passed, Tufele called out in Samoan, " How about the chief's share ? " They appeared embarrassed and fumbled with the bag, but Tufele then said, " Never mind, you may keep them all." As an aside to me he whispered, " Anyway, those two old women haven't much for themselves, and I didn't want to take any." He told me that now the old customs had changed to the extent that tribute of food was not commonly demanded ; and villagers who caught fish were beginning to neglect the chief's share.

The chiefs' ordinances, the beliefs of the people, and a great variety of customs and traditions went to make up the South Sea islanders' way of life. They all fitted together and were what sociologists call ' integrated.' Government and religion were intertwined ; government affected agri-

culture and fishing. The chiefs, supported by the priests, made regulations regarding food and, therefore, about how the people used their lands and about what fish they should catch.

It was natural that the early missionaries should endeavour to control the political affairs of the Pacific islands. Chiefs turned to them for advice. Missionary political influence was a constant feature in early Pacific history. Missionaries attempted, on the whole with very little success, to establish native governments along European lines. But it became increasingly difficult to control the European settlers and to secure for them ordered liberty. As the commerce of the Pacific increased in value, more and more colonists were attracted there. An important labour traffic got under way, and it became necessary that some European power should prevent it from degenerating into a revival of the slave trade. The question that inevitably became more pressing was whether or not native chiefs could, under missionary influence, establish governments strong enough to preserve order and control European settlers. However, once European settlement had commenced, it seemed that regard for native interests must sooner or later lead to annexation. In many islands the succession was explorer, missionary, trader, slaver, European government.

The high regard in which missionaries have always been held by South Sea people is still reflected in the influence which missionaries in the Pacific islands wield. They generally stay a long time in the islands in contrast to European and American government officers, and are in very close touch with the people. Many of them are able men and women, and governments co-operate with them in devising measures for native welfare. Occasionally both Protestant and Roman Catholic missionaries acquire an influence that government officials cannot rival.

Indirect Rule

It was not to be expected that the various western governments imposed on the South Sea people could deal directly with native customs, traditions, and superstitions in a satisfactory manner. It was hardly to be hoped that entirely new ideas of administration could be accepted by races with hundreds of years of their own traditional institutions behind them. The most practicable method of procedure was to allow the natives to carry on their own affairs in their own way with as little interference as possible. This was achieved by a so-called system of indirect rule. It was certainly the most expedient way of dealing with native governments by administrators who in earlier years had little knowledge of the native people. It was all the more necessary because of the small numbers of European government officials scattered through the islands.

Indirect rule is a philosophy of native administration directed towards the orderly control of primitive peoples through their own customs and native codes without suddenly importing European ideas. It governs the South Sea people through the medium of their own organisations. It is the administration of justice by natives to natives. Through it the natives retain a share of self-government generally by means of village and district councils. Old native systems retain their basic structure and in some cases are elaborated to accommodate the needs of the administration. Old native

political divisions in many places are retained, and local chiefs are given government appointments with salaries which to us are very small, but which are adequate in islands where wants are few.

The policy of indirect administration is well exemplified in the Gilbert and Ellice Colony. Each island has a native magistrate, appointed by the British District Officer with the approval of the resident British Commissioner. On this magistrate falls the bulk of the executive work. He deals with all questions affecting the welfare of the people as a whole, issues orders and instructions, and generally exercises control over his island. Power to make local regulations pertaining to public health, maintenance of peace and order, performance of communal work, conservation of food, and the economic and social betterment of the natives is vested in an island council in each atoll. A code of native laws is administered in a native court on each island under the general supervision of the British administrative officer of the district in which the island is located. The main reasons for the success of indirect rule in the Gilbert and Ellice islands are the isolation of these coral atolls, the small number of non-native people there, and the lack of resources of interest to outsiders.

The government of the Gilbert and Ellice Colony has been so good (or so bad in its by-product from the natives' point of view) that there has been a large increase in population. A population problem has arisen because artificial controls formerly practised are now frowned upon by the missionaries and prohibited by the Government. The successful effort of the medical department of the colony in reducing death rate and, in particular, the rate of infant mortality has embarrassed the Gilbertese in endeavouring to adjust their native prolificity to their restricted food resources. Overpopulation has been brought about through the abandonment of the old population checks of infanticide, emigration, and warfare, and a decrease in abortion, due to the establishment of British rule. Furthermore, the native is no longer able to consume all his food resources, but must convert a portion into cash or its equivalent for taxes. The result is that the islands are not able to support as many inhabitants as before. Shortly before the war, about two thousand Gilbertese were transferred from their islands to uninhabited islands of the Phoenix archipelago. That emigration and casualties in the war have temporarily relieved the problem.

In Fiji, when I was there in 1937 and 1940, indirect rule was the method of government of that Colony. During a visit at the home of Chief Tuisavau, I was impressed by the respect in which my host was held by the Fijians in his district. Natives went to one side of the road when they saw him coming, and when they were about to meet him on a narrow path, they went off it altogether. As he passed they bent their knees, assumed a squatting position and clapped their hands. If a Fijian was carrying a load, he laid it down until the chief had gone by. Tuisavau has great prestige among all the Fijians on Viti Levu Island and the natives pay much heed to his suggestions for their welfare.

A system of indirect rule is followed to-day by all governments in the South Seas except in Hawaii and New Zealand. It does not work well now in many islands because the chiefs are rapidly losing hold on their people. In some islands, chiefs have fallen prey to liquor and gambling and other western evils, and on that account their influence has suffered severely. In

others, the people have been much affected by contacts with the civilisation of Europeans and Americans. They resent the power of the chiefs and doubt the efficacy of native regulations in the midst of a breakdown of their old customs and traditions.

Modern Civilian Administration

Modern civilian administration of South Sea people in general is from a western, economic point of view. Emphasis is on the importance of work and the production of money crops for world trade. This, of course, is an entirely new concept of government and administration from the point of view of the natives. The western administrator looks over the land and muses, " These islands have by no means reached the full development of which they are capable." He conjures up ways and means for further economic progress. Among the essential changes which all the various governments have introduced are those which have to do with land control, standards of justice and tax obligations. South Sea people resent taxes more than any other imposition of the west. Taxes are generally paid from the proceeds of the copra business. In years when the market is poor, many taxes remain unpaid. Delinquent taxpayers are then summoned to appear in court. Many pay no attention and are arrested and put in jail. The work which they are required to do under confinement is counted towards the delinquent tax. Being put in prison for non-payment of taxes does not carry any social stigma. The prisoners count on getting free meals and having a sociable time. I have heard the welkin ring of an evening with the strident notes of native songs from the confines of a jail.

It must be pointed out, however, that ideas about the government of South Sea people are changing. The policy adopted by the Australian government in the territory of Papua (New Guinea) represents a determination to give priority to native welfare as against European interests.

The business of government in the South Seas is complicated on many islands by the number of Europeans and Orientals earning a living there. The white residents distinguish between those born in the Mother country and expecting to return there, and those born or permanently settled in the islands. Old settlers in the islands and their descendants have a solidarity of their own. They are generally related by intermarriage. They particularly resent the tendency of government officials to look down on them. It is only in capitals like Suva, Noumea, and Papeete that the colonials are sufficiently numerous to act as a group, though in more remote settlements they are heard from now and then.

Early colonists in the islands obtained considerable land. On larger islands, tracts of good land adjacent to ports went to foreigners. As Europeans and Americans gained control of more and more land, there arose a demand for labour to exploit it. For the natives of tropical islands nature is a generous provider and encourages them to a life of ease and contentment. Since it had never been necessary for them to work long and regularly to earn a living, they were not desirous of working for the production of resources of their islands desired by foreigners. The labour reservoir of the Orient was mainly drawn on to supply the need. Thousands of Chinese, Japanese, Filipinos, East Indians and others now earn a living

in the islands either on plantations owned by Europeans and Americans, on farms of their own, or in retail, transportation, or other business.

The presence of Chinese in Western Samoa was a very argumentative point in local politics when I visited those islands in 1937, and has remained in the foreground until this day. Plantation owners wished to import more Chinese labourers. But the Samoans strongly opposed this and insisted that those Chinese already in the islands be repatriated. A Samoan member of the Legislative Council asked officially, " Did not the New Zealand Government promise to repatriate all the Chinese within one year and there is now only one month left ? " The government replied, " We need the shillings and pounds which the Chinese earn for us so that we may run the government on your behalf."

The increase in East Indians in Fiji has jeopardised the position of the native population, and the ultimate domination of the Fijians by the Indians is now foreseen. Adapting themselves to Colonial conditions, the discovery of a new social cohesion, modernised dairy farming, other improved forms of agriculture, and a developed sense of public duty have challenged an ambitious East Indian community. Like the Japanese in Hawaii, they consider the Pacific islands their new home and have no intention of leaving it. They have become part of the permanent population of the South Seas.

The second world war has contributed more to the dissatisfaction of natives with Pacific island governments than all the events of the previous hundred and fifty years. Thousands of South Sea islanders were willingly or unwillingly made participants in the conflict and thus were brought into close association with ideas entirely new to their way of living. They were in great demand for tasks associated with military operations : clearing camp sites, building warehouses and airfields, constructing and maintaining roads, erecting telegraph lines, salvaging equipment, loading and unloading cargo vessels, and operating small coastal vessels. They distinguished themselves in the ranks of Allied soldiers. Natives made up the greater part of the regular forces recruited within Fiji. Tongan troops won the praise of American G.I.s for valiant behaviour in gruelling circumstances. People in the South Seas in general have been so affected by the war that politically their future will present greater problems than in the past.

Military Government

As a result of the second world war, three large archipelagoes—the Marianas, the Caroline and the Marshall Islands—have come under the rule of the Navy of the United States. Guam has returned to the *status quo ante*. In Micronesia the administrator is confronted with a much disorganised society and an unintegrated social order. None of the ethnic groups there have common sets of values and ways of living. They lack these not only because of the war, but also as a result of several hundred years of trying to adjust themselves to the varying demands of different colonial powers.

There are three fundamental types of problems involved in the future of these people—economic, security, and administrative. Economic problems include whether or not the area shall remain a closed preserve for a single government agency after the manner of the Japanese South Sea

Company; or whether several American or other companies shall have access to it. An important economic problem is whether or not the Micronesians can be made self-supporting, at least at the level they enjoyed under the Japanese, or whether they will be orphans of the American taxpayer. Security problems will be solved in co-operation with the United Nations. As a member of the United Nations Organisation, the requisites for success in solving them are teamwork and adherence to the rules of the system as outlined in the Charter.

The greatest problem in Micronesia is the day-to-day administration of the native people. Americans, like Europeans, regard the natives as primitive. Many high-ranking officers have little interest in or regard for native needs and welfare. In dealing with people of different civilisations, they frequently make mistakes which could have been avoided if they were conscious of what was involved. Differences between the cultural backgrounds of the governing body and the governed will generate misunderstandings.

International Regional Associations have been organised for reasons of inter-government co-operation in economic and social matters for various parts of the world. In the islands of the Caribbean, another area fragmented by historical and environmental factors into little bits of different empires, a regional commission has been established. A ' South Pacific Regional Commission ' has come into being for Pacific islands. Its membership includes, in addition to Australia and New Zealand which jointly proposed the organisation, the United States, the Netherlands, Great Britain, and France. The Commission is to make recommendations for a common policy on social, economic, and political development, directed towards the advancement and well-being of the native peoples themselves.

It remains to be seen if an international regional association in the Pacific will be very effective in the interests of South Sea people, for conflicting or competing interests of European powers and American powers in the Pacific islands are difficult to be reconciled. ' Lever's ' Company in England wants copra for soap whether or not it is in the best interests of the natives to have indentured labour on coconut plantations. France wants minerals regardless of the effects of imported Oriental labour on the native population. Sugar is needed by Great Britain and it can be produced in Fiji only by East Indian labour. Whether the Commission succeeds or not will depend on whether the governments concerned really mean what they say about development of backward peoples, and whether they are willing to curb the economic interests of white peoples when these conflict with progressive colonial policies.

Three basic principles of far-reaching significance to the future of dependent peoples in the Pacific and elsewhere were embodied in the Charter of the United Nations. First, that nations responsible for the administration of dependent territories should recognise that they are accountable to the world community for the well-being and development of the peoples under their authority; second, that political, economic, social, and educational advancement of the natives is a primary concern; and third, that dependent territories must be administered in such manner as to contribute to the maintenance of peace and security.

The isolation of the Pacific islands or at least of the great majority of

them will continue, the tropics will remain as it has been, and the primitive nature of the inhabitants will change only slowly. Western people in general cannot properly evaluate the traditions, customs, and philosophy of life of South Sea people. Whatever kinds of government evolve in the near future will therefore involve considerable indirect rule. To be effective, an administrator will have to make use of systems of beliefs and existing social organisation to gain acceptance for his ends. The application of policies of indirect rule will be more difficult in the segmented societies of Melanesia than in the politically organised communities of Polynesia.

The relation of an educational system to indirect rule is one of the more difficult problems to solve. Education will enlighten the native people towards their primitive customs. The danger is that the evolution of their culture under indirect rule will not move fast enough to keep pace with education. Contact with western civilisation induces impatience with tribal restraints, and tends to drive some who have the ability to be leaders in the development of their own people to seek life in a port or other new environment.

The first requisite of an administration in the South Seas is to be genuinely interested in the welfare of the natives. A second is to maintain personnel in the islands long enough to become very familiar with local problems. The most important objective is to prepare the natives for the largest measure of self-government they themselves can administer. Only in these ways can the people of Pacific islands be governed in the spirit of the Charter of the United Nations.

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THE DEVELOPMENT OF STORNOWAY

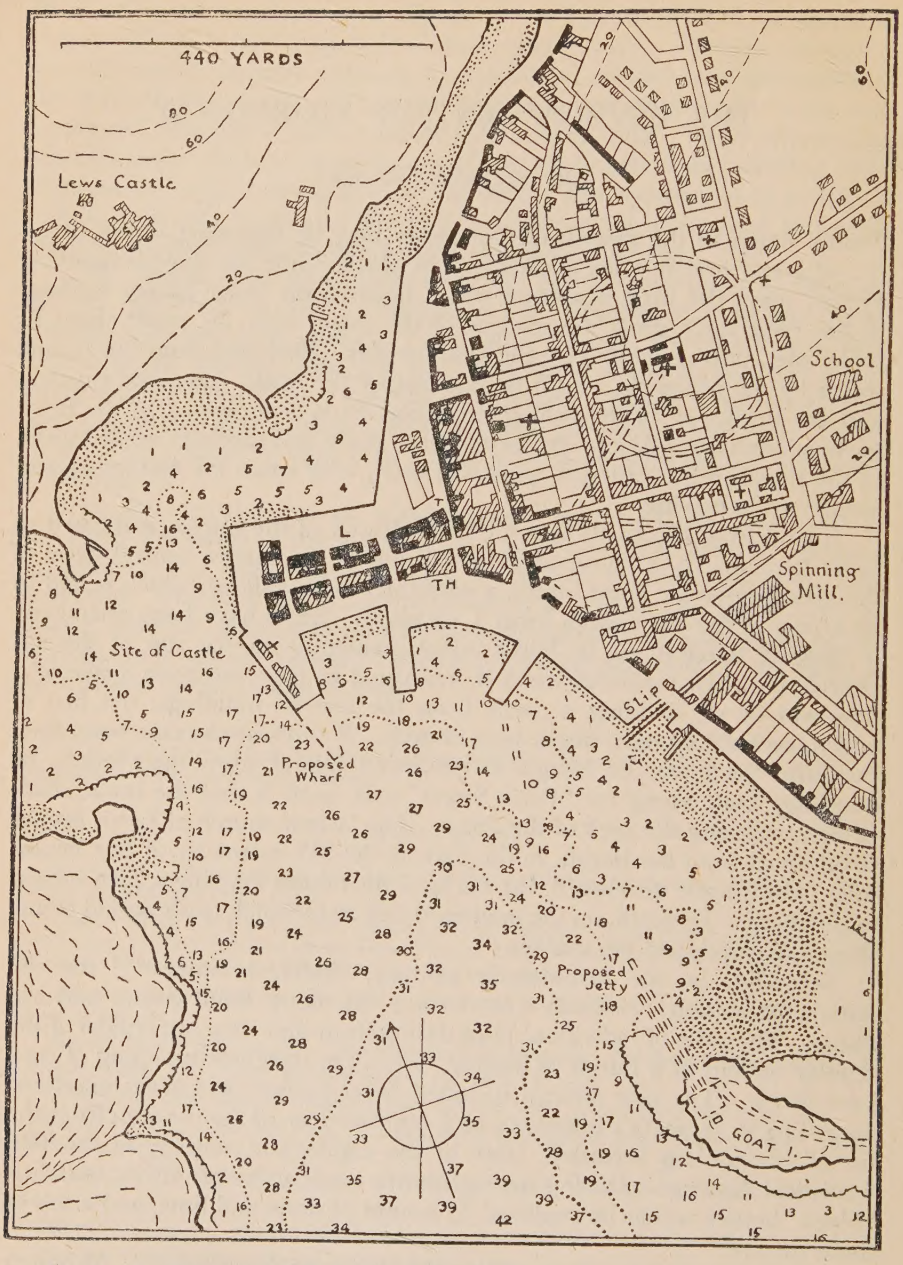
By Arthur Geddes

Three stages in the growth of Stornoway may be discerned in the plan [1] (p. 58): the first two are picked out in black, while the third is hatched. Firstly, upon the little peninsula which protects the inner fishing harbour of the river there grew the nucleus of the town, with the castle upon its rocky islet, now concealed by the steamer pier. Sheltered from the stormy waves by the peninsula, and from enemies by the castle, MacLeod's galleys and the beginning of the fishing fleet must have congregated in the inner harbour from early times. Protection from storm was specially needed until, in the nineteenth century, a quay was built, with space for marketing and handling the herring.

Inland from the castle was the little church of the burgh, dedicated to Saint Lennan. In a house on the north side of the narrow central street of the little peninsula, Point Street, a very thick wall is shown which is said to be a part of the old church (near L on plan). Bones have been uncovered in digging foundations in Point Street, evidently on the site of the old churchyard. In medieval times it was usual to leave an open space of a bow-shot or so, dividing a castle from the nearest buildings, the first of which, on such a point, might be a church. If this was the case here, then the little town can be imagined stretching inland from the church, its dwellings built along the 'Point Street' axis, until it met the track, road, or street crossing the neck of the Point. The largest church of Lewis proper stood apart from the burgh, to the east, at the SW extremity of Eye Peninsula. Until trade developed, the backs of the houses may have been turned to the shore. To north, on the landward side from which cattle would come, there was developed the market.

Secondly, in the seventeenth century, thatched houses [2, 3] for the settlers planted by Seaforth were strung out along Point Street and the Shore. The rows of individual plots dating from that time are typical of the regular lay-out of a burgh of barony, not of the irregular grouping of conjoint farms. The new tenants included fisher-crofters and artisan-crofters, according to Seaforth's intention, and continued so, as can be seen from the list of occupations recorded, later in the eighteenth century, in the Old Statistical Account. During the eighteenth century the primitive, thatched 'black' houses would be replaced by houses of stone and lime, and a few of those survive.

Of the fort built by Cromwell on the Point, no signs remain. Although there exists a sketch plan of the fort, its site is not shown.[4] For tactical reasons, the best site would seem to be the neck of the Point, from which the guns of the fort could defend the houses, stores, and quays. Old property boundaries hold tenaciously to ancient, forgotten building lines. The irregular building line near the point marked T was a Town House at a later period. This may perhaps correspond to the northern angle of the fort.



Stornoway. Based on a British Admiralty Chart with the permission of the Controller of H.M. Stationery Office and of the Hydrographer of the Navy; with insertion of old buildings (shown in black) and buildings proposed (pecked lines) on Slezer's plan (1820), of additions made by the author (1944), and of the harbour development plan of 1946 (pecked lines), shown by courtesy of the Stornoway Pier and Harbour Commission.

L=site of St. Lennan's. T=former Town House. TH=Town House.
×=site of Castle. +=modern churches.

By the time Wood drew his plan in 1821, houses on the Point no longer looked exclusively on to the axial street, presumably the original line of growth. There was sufficient shipping to make the 'North and South Beaches' more than mere 'backs' to houses fronting on a peninsular axis, Point Street, as is characteristic of primitive fishing villages in many lands. The main alignment of interest came to be the beach, marked, in time, by a properly built quay. To-day, the Point Street houses have fallen into decay, some are ruined and many condemned and empty, while many houses recognisable from Wood's plan along the quays still stand in fair repair.

Thirdly, in the nineteenth century, from soon after 1821 until 1919-20, two-storey, flatted tenements, hotels, and houses of middle-class people were built upon a grid that followed upon the old field plans. We have also indicated by broken lines the alternative plan, proposed about 1820 but not adopted, in which a diagonal vista opened out to the Established Church, built in 1794 on rising ground ; aesthetically the proposal had something to commend it. The modest Seaforth Lodge which had stood across the harbour was replaced by the pseudo-Tudor Stornoway (or Lews) Castle, to suit the grandeur of the new improving landlord, Sir James Matheson, after his purchase of Lewis in 1844. Its length is 170 feet, with two towers approximately 100 feet in height ; it was completed in 1870. Presented to the people on the break-up of the Leverhulme Estates in 1925, a new use has still to be found for it. A few villas also grew up on outlying roads.

Thus, a mere village in 1801, and among the smaller burghs of Ross and Cromarty in 1841, all ranging from 1,000 to 2,300, Stornoway leapt ahead from 1851, growing with the rise of the fishing trade. As the market towns on the east coast of the country declined, like Tain, or grew but slowly, like Dingwall (which gave pride of place to Inverness), Stornoway increased. Including its literally floating population of fishermen, it exceeded 4,000 in the summer of 1921, though falling below this in 1931.

Still another stage, a fourth, seemed in sight when, in 1918, the first Lord Leverhulme made his bid to centralise the scattered, failing fishing industry of the Island at Stornoway. A canning factory was started (south of the area shown on the plan), only to be dismantled before its completion —then recommenced and again dismantled, at 'Leverburgh,' South Harris. Housing of pleasing character, planned on sound lines laid down by the Department of Health, began to be erected, also a little beyond the area shown. When this great venture closed and population stagnated, there was little further extension for a time. The grandiose proposal to re-open the diagonal vista on Wood's plan, and centre it on some great new building (which would have involved the destruction of the existing buildings, good and bad alike), remained a dream. The failure of Leverhulme's great enterprise and its hopes led to discouragement for some years. Yet it is possible that the vision of change given to the Island may have contributed to a renewed capacity for enterprise, individual as well as communal.

Later extension had to await the growth of the Harris tweed industry, and the erection of spinning mills in town, to provide yarn for the rural hand-weavers. The modern extensions of the town have taken place along two main directions : the villas and housing schemes to NE, and the industry to ESE, where kippering sheds were numerous from the middle of

the nineteenth century until after 1919. Latterly, the spinning mills have extended for more than half a mile to ESE from the Patent Slip Mills. Although some housing was undertaken in the inter-war period beyond the mills, housing to the north-east is at present approved. Owing to drainage difficulties (in the unbuilt area seen E of the Slip), a problem in planning is to allow for reasonable access of workers from their dwellings in the north to the mills in the south of the town.

The functions of the town are mostly indicated on the plan. This shows the siting of the warehouses on the steamer quay ; of the fish market where the gutters work in the season beside the inner harbour (north of T) ; of the chief shopping frontages, where shoppers from the villages congregate and gossip, near the fish market and around the narrow neck of the little peninsula ; of the Nicolson Institute (the Secondary School) ; and lastly, of certain industries. Kippering sheds and a fish meal factory stand on the SE shore. One of the larger spinning mills stands near the quays, a smaller one being on one of the later built streets ; both have been greatly extended since 1920. Though Tarbert is a minor shopping centre for Harris and has its spinning mill, Stornoway has no rival on the Island. The adequate depth of its harbour combined with its position and access from sea and land have given it command of Lewis, and make it by far the leading settlement of the Hebrides. Its population, 3771 in 1931, is growing.

Aspects and Problems of the Burgh

The little town pleases by the beauty of its site. From over the harbours, outer or inner—sheltering perhaps a steamer or two and the clustered fishing vessels—one sees the wooded skyline and the beautiful grounds of the Castle, a-flower in spring with rhododendrons; or framed in trees, from the Castle policies, the harbour and even the roofs and smoke of the houses are not unpleasing. But inevitably no doubt the town's chief charm is its setting, not itself. In Scotland there could be but little sustained development of native architecture, ecclesiastical or domestic, from the inspiration of medieval times—a development possible in towns and villages of happier lands, safe from the invasions which ruined Scotland from 1300 to 1600. In Stornoway the first large place of worship to be built, the Established Church, is frankly box-like, but the Gothic of later churches of the 'seventies is too utterly at variance with the spirit of medieval Catholicism to be sincere. As to the towered and turreted pomposity of Stornoway Castle, there was so little to choose in Victorian times between the Scottish Baronial and the Anglo-Romantic styles, that one need hardly regret that this mansion makes no pretence at native, Scottish character.

Victorian style has marked the town's expansion in Victorian times. Then for a time there was little opportunity for new public building, except in the country, where village halls are needed, and could be built partly by voluntary effort, as at Sandwick near Stornoway, of local material. Such opportunity as offers in the town must come mainly from re-housing. The townsfolk, at no greater expense but with greatly added value, have taken note of the best examples of authorities such as those of Dunbartonshire, of Alyth in Angus, or of Rosyth, who have respected Scottish domestic features. This is no narrow nationalism, for such features fit our habits and ways of

life, as enlightened architects from both sides of the Border have seen and shown us by their work. As to materials, there has recently been a revival in Scotland of rubble work, utilising undressed boulders from shore or hillside, pleasing in itself, fitting in its surroundings, and economic by its use of local labour and skill. Surely the latter is a particularly important point in the Island with its vast proportion of men who are but half employed, and who need such work to maintain income, health, and morale.[2]

Both in the heart of the town and further out, better housing is needed, especially to replace the thatched cottages, only one remove from the primitive 'black house,' having no damp course and only two or three rooms. Throughout the county the standards are low, even for Scotland, so ill-housed a country. Taking the average for burghs of Easter Ross in 1931, fully a quarter of the population still dwelt in houses of from one to three rooms, a quarter in four, and nearly a quarter in from five to six rooms, the remainder occupying seven rooms or over. The Island conditions are still worse.

In Stornoway burgh 44 per cent., or nearly half the population, still dwelt in houses of one to three rooms, 17 per cent. in four (including attics often with no dormer windows), 20 per cent. in five or six, and 18 per cent. in seven rooms and over. The average for Easter Ross is no doubt somewhat misleading, for while in a little holiday burgh like Fort Rose only 7 per cent. dwelt in three rooms or fewer, in ancient Dingwall 38 per cent. were so housed. In rural Lewis, over half the population (52 per cent.) still lived in dwellings of two rooms (or one), mostly 'black houses'; a few (14·4 per cent.) in three rooms, and only a quarter (27 per cent.) in 'white houses' (with two, usually dormer-windowed attics). A few possessed five-roomed houses; but not 3 per cent. dwelt in houses of six rooms or more. In Stornoway, and still more in the country, there had been improvement up to 1939, but much remains to be done.

Turning to cultural life, profound differences divide the town from the country about it. Whereas in the townships of rural Lewis the people are almost purely natives of the place, even the schoolmaster and ministers being mostly Islanders, in Stornoway an important minority of the officials and business men hail from the mainland, and some of them from the Lowlands. New blood has undoubtedly been needed to promote enterprise, to foresee new possibilities, and even, at times, to make the best of the past. At the same time, the cleavage between town and country is marked in ways of thought and feeling as in livelihood. To take a single criterion, that of speech, most of the children of the town speak no Gaelic and many hardly understand it. While the percentage of Gaelic speakers was 95 in the three outlying parishes, in the burgh only 70 per cent. could still speak the old tongue in 1931, and by 1941 the number must have been still smaller.

The attempt to harmonise the interests of country and town forms one of the most hopeful aspects of the activities of the Stornoway Trust, which holds the rural and urban property presented to the people of Stornoway parish by the first Lord Leverhulme, and of the Lewis Association, recently formed to undertake studies of the Island which may throw light upon action for the future.[5] The maintenance of the town's prosperity will depend greatly upon its industries of fishing and of spinning; and these are almost inseparable from the maintenance of the rural population for whom

Stornoway acts as regional centre, and who weave with the yarn spun in the mills. The fact that Lewis is an island dependent upon a single port makes it possible for the Islanders literally to keep a watch over their economy, as steamers unload, and even to control it by action. The watch is increasingly acute and disinterested, as the first published Reports of the Lewis Association indicate.[5] And the action taken can be quite effective, whether it be by the Local Authority or the landowning Stornoway Trust, by organisations of the masters of the leading industries and trades, or by the organised workers : the rural weavers, the urban spinners, or the dockers on the quays. Unity in constructive purpose could go far to build up the prosperity of the community.

With the recognition of the need for planning aroused by the problems which face the country with the return of peace, Stornoway citizens have begun to make a real effort to survey and plan for the future. Although in Scotland only the Councils of the Counties and the large Burghs possess statutory powers for Town and Country Planning, the isolation of Stornoway makes it natural for an informal understanding to be reached between the County (of Ross) and the Burgh, whereby the wishes of the Burgh, and the advice of its Planning Consultant, are given special consideration.

At the centre of the Burgh it is proposed to rebuild the whole of the peninsular area of Point Street by co-operation of three authorities. In Stornoway these include the Town Council, the Pier and Harbour Commission (which possesses the most south-westerly line of buildings, with the old Custom House), and the Stornoway Trust as owner of property, including Lews Castle with its grounds. Citizens are beginning to show enthusiasm to give architectural dignity to their planning of the requirements of commerce, traffic, industry, housing, and community life.

The early execution of the proposed harbour development plan of 1946 was recommended by the Highland Advisory Panel of the Secretary of State. It is proposed to allow vessels to berth at all states of the tide alongside the quay by extending this southwards for 300 feet (see plan, p. 58) ; further, to enclose the waters of the harbour by a causeway linking Goat Island to the eastern shore ; and to utilise Goat Island for a slipway, with facilities for repairs to fishing vessels—facilities such as are at present available on the east coast of the mainland.

Planning of Burgh and Townships in 1947

During the past twenty years, there has been an increasing drift of population from the rural or landward areas of Lewis towards Stornoway. Accordingly, the demand for houses in the immediate vicinity of Stornoway has become very great. As most of the best farming land in the Island lies round the Burgh, much of the new housing belt at Stornoway in recent years has tended to encroach on this land some of which has been included within the Burgh boundary.

With the advent of planning legislation, the whole question of the use of land in the Stornoway district and the distribution of population in Lewis has been carefully reviewed by the Planning Consultant, Mr. Robert Hurd, specifically appointed for Lewis by the County Council of Ross and Cromarty. As a result, the County Council have adopted the policy

of doing all that is possible to encourage the retention of population in the villages of the landward area, particularly as regards the improvement of social amenities. Coupled with this has been their determination to retain as much land as possible round Stornoway for the production of fresh milk and vegetables. Great care has been taken, therefore, to restrict building development beyond the Burgh and to guide development as much as possible into the villages of that district. The County Council have even taken the unusual step of building houses within the Burgh for applicants from the landward area who, because they are not ratepayers, are ineligible for houses built by the Town Council. The only alternative to this would have been the erection of houses by the County Council on the farm lands around the Burgh boundary.

Active steps are being taken at the same time to foster the development of resources in other parts of the Island, opening up, for instance, the almost uninhabited areas between Tolsta and Ness where there is at present no road. At the moment, the question of encouraging the development of Carloway or Breasclete as a bigger fishing and industrial centre, to counteract the drift to Stornoway, is under active consideration. A complete scheme for the distribution of village halls has been drawn up and approved.

In these and other ways the County Council are hoping to provide greater facilities for work and living in the landward areas so that a proper balance between town and country may be stabilised.

The social situation is of quite exceptional interest, and a Survey of its features is being made by the Lewis Association. One outstanding feature in Lewis is the real unwillingness of young people to leave the Island.

REFERENCES

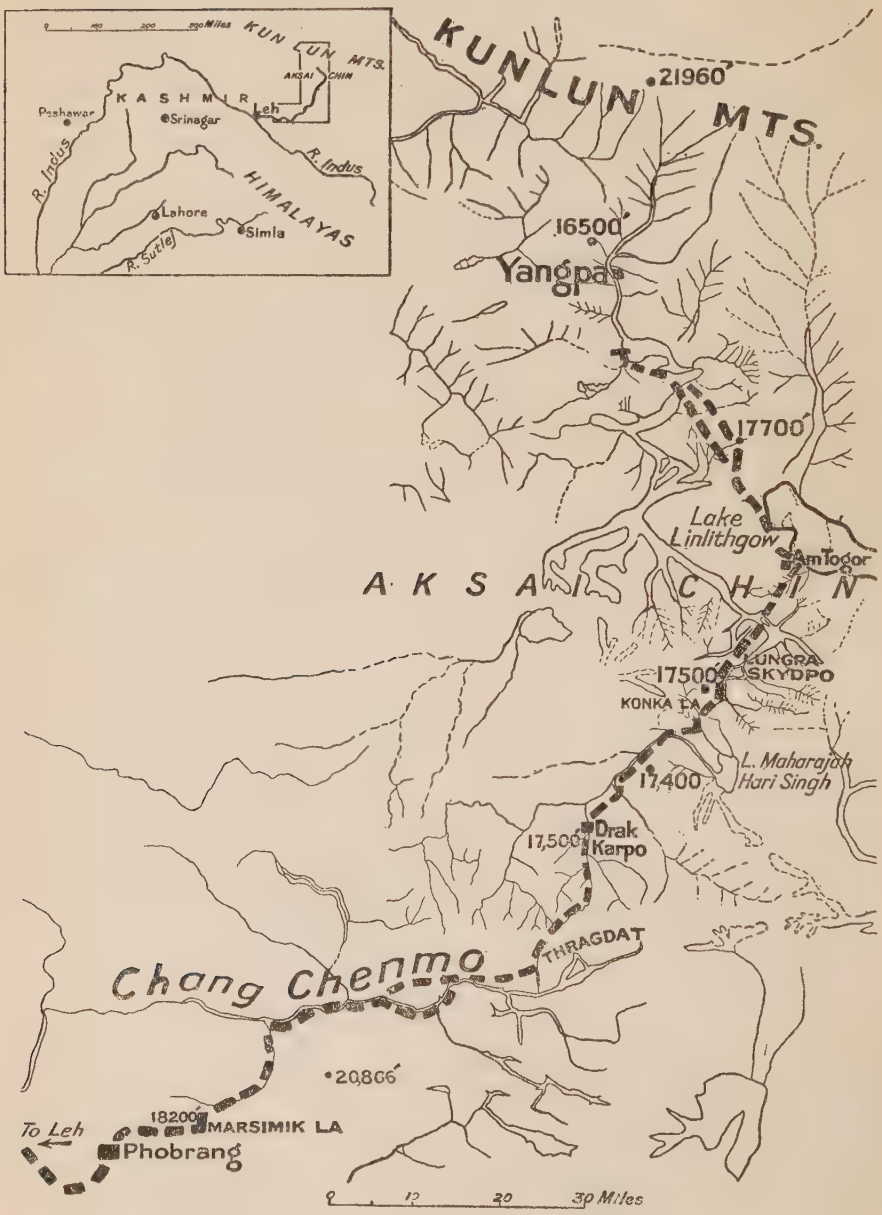
[1] The assistance of Miss L. R. Latham, B.A., in the preparation of the plan is gratefully acknowledged.

[2] Stevens, Alex. "The Human Geography of Lewis." *S.G.M.*, 1925, 41 (*2*) : 75-88.

[3] Geddes, Arthur. "Lewis." *S.G.M.*, 1936, 52 (*4*) : 217-231 ; (*5*) : 300-313.

[4] A sketch, the last photograph of the castle ruin, and other illustrations of the old burgh, will be found in W. C. Mackenzie's *The Book of the Lews*, 1919.

[5] *The Lewis Association Reports*. Stornoway, 1944. Cf. *S.G.M.*, 1945, 61 (*3*) : 94.



Sketch map of the Aksai Chin, showing the author's route. Inset : Location of sketch map.

CHANGPAS AT LUNGPA SKYDPO

BAGS OF SALT BELONGING TO A CHANGPA SHEEP CARAVAN

AKSAI CHIN: BETWEEN THE TWO SALT LAKES

BRINE RIVER FROM MARPO THANG—LAKE HARI SINGH—KUN LUN MOUNTAINS

THE DESERTS OF THE KASHMIR-TIBETAN FRONTIER

By Col. R. C. F. Schomberg, c.i.e., d.s.o.

The Kuen Lun Mountains form a barrier along the south and south eastern part of the province of Sinkiang or Chinese Turkestan, and divide that immense area from its two neighbours, Western Tibet and the Ladakh province of Kashmir. It is to the southern slopes of these mountains that any approach is difficult, as a desert of barren uplands, the playground of bitter winds that blow from every airt, makes all human movement well-nigh impossible. Every explorer who has ventured into this bleak and desolate area has suffered heavy losses in pack animals, for the simple reason that there is nothing for the poor beasts to eat. For days the track, if one exists, wanders over these unkind plains which are seldom less than 14,000 feet above sea-level and usually are nearer 16,000. In a journey of this kind all depends on transport, and when grass is lacking, and even water very rare, all movement is restricted. Given grass and water, animals will tolerate the cold, but without these necessaries they perish.

North east of Leh, the capital of Ladakh, and south of the Kuen Lun is a large undulating plain, called on the map the Aksai Chin, or White Chinese Desert. It was my intention to cross this unattractive region and to reach the southern slopes of the Kuen Lun where I should join the route of the late Sir Aurel Stein, that giant amongst explorers; and also even more, for one has to be practical, to enjoy the grass and fuel that some of these hills would furnish as compensation for the scarcity in reaching them.

We set out from Leh on a pleasant day in summer though it was rather late in the season, but that could not be helped, as delays inevitable to all who make journeys in the East had been forced upon us. We had a poor collection of animals, grass-fed Ladakhi ponies, which had little stamina as they soon showed. The whole of the menagerie, ponies, donkeys, and drooping Ladakhi men were under the charge of a stout, good-natured Ladakhi headman, called the Nono, which means the " Little Master." He was an agreeable fellow but feckless and easily dispirited. My own headman was Daulat Shah of Hunza, who had been with me for nearly fifteen years and successfully bossed everyone, myself included.

Our route led up the right of the Indus, crossed the Chang La or pass, 17,500 feet, and brought us to the last village, a small, chilly hamlet, called Phobrang. From here we entered the Chang Chenmo valley, over the Marsemik La or pass (18,200 ft.) and continued up that barren valley. As far as this point, our journey had been uneventful. We were travelling over well-known if unfrequented ground which was regularly visited by sportsmen. It was on leaving the Chang Chenmo valley that we entered the unknown and our troubles began. At our last camp in Chang Chenmo the first casualty occurred when a black horse, borrowed by the Nono from a friend, dropped dead for no apparent reason. This event caused some agitation, as a Ladakhi never knows how to doctor a horse, though a Turki can usually diagnose and cure an ailing animal.

We left Chang Chenmo by the Thragdat Nala, and rising by a com-

paratively slight incline to the crest of the pass, we looked down on the Lingzi Tang, or Plain of the Four Sides, which was the southern part of the Aksai Chin. It was not an exhilarating scene. Although it was now full summer, the scurries of sleet whirling in the cold wind over the endless ridges of black shale did not improve the view or our tempers. We had a surveyor with us, an admirable man, who tried to use his plane-table in this unhygienic atmosphere; but even his umbrella offered slight protection to himself and his map, and I often wondered how he avoided chilblains.

For three miles we descended a narrow stony valley, devoid of vegetation, and came to a low ridge of red sandstone. We crossed this, and from the top we saw, in spite of the indifferent weather and the failing light of a late afternoon, the almost limitless expanse of the plain. Far away, a mere blur against the dull sky, was the outline of the Kuen Lun. The view was a novel one, even stimulating, for it was a great sea of desolation, hardly known to man. Then a snow-storm overtook us, and we pushed on to camp at Drak Karpo or the white hill, 17,500 feet above sea-level. There should have been some grass here, but a caravan of sheep had eaten what little there was.

It is the custom for Tibetan nomads to visit the numerous salt lakes of this region, and to bring back the salt in small bags holding about 20 lbs. and slung across the backs of sheep. These animals manage to scrape a living from the scanty grass where other larger beasts would die. The sheep move very slowly, partly because they cannot go far in a day, and partly because they graze as they move, but chiefly because the stony ground hurts their feet. Probably six miles a day is as much as can be expected from this form of transport, which has been used by travellers in this region with success, but it is too slow to be practical.

We moved on, over the plain amid the fantastic scenery of these strange uplands. Heavy grey clouds surged and billowed, and the lofty mountains encircling us were strangely dwarfed by the great elevation of the plain itself. A mountain of 20,000 feet or more is far from impressive to anyone crossing a plateau some two or three thousand feet lower. Here we met the white Burtsa or Gyabshan (*Eurotia*). It was a woody and unpalatable plant but the ponies ate it willingly. The long fibrous roots burnt readily and were indeed a godsend. Fortunately the plant is prolific and grows rapidly, which is as well, as there is little other fuel in these regions where the droppings of animals are scarce. The Tibetan, however, uses little fuel of any kind as compared with a European or Indian. He never washes, prefers to eat his meat almost raw, carries his meal already parched or roasted, and his only want is a fire to boil water for his tea. Our cook used to sit in camp surrounded by a regular zariba of fuel, in great contrast to the few handfuls that the ponymen needed.

We continued over the plain. Sometimes we saw an antelope in the distance, and once we saw that enterprising and ubiquitous migrant, the Hoopoe. A reddish ridge, called Tobok Marpo or the red hillock, broke the monotony of the march, and we pitched camp a little further on by a river, wide and shallow, which held two teal, which wisely flew away. We had now reached the eastern edge of the Lingzi Tang, and were near the basin of the Sarigh Jilga Nang Tso. This hybrid word, Tso being Tibetan and the other words Turki, meant the lake of the yellow valley.

The sun rose the next day, like a fat round red cheese, over the edge of the plain, and promised a fine day. Hardly had its rays touched the ground, when great banks of cloud hurried up, and the landscape grew cold and grey. A little way further on, we crossed beds of hard whitish clay, as level as a tennis court, and camped by another stream, the Drak Karpo Chu, or river of the white hill. Years ago a heavy cloud-burst had filled its channel to the brim and had torn a new course through the friable soil. Most of the plain consisted of a sprinkling of gravel over soft, almost sandy soil. It was a most deceptive floor, as it looked firm but proved very much the reverse and terribly tiring for the animals as well as for us. We skirted the Sarigh Jilga Nang Tso, a sort of natural bund or wall, high above the lake which in former days was much larger and must have then presented an impressive spectacle of a large inland sea. It is a constant puzzle to the traveller to account for the difference between the lakes of to-day, shrunken and wasting, and the evidences of former abundant water. In present times water of any kind, and especially fresh water, has much decreased. I came to the conclusion that this lake, the Sarigh Jilga Nang Tso, was no longer drying up. It had reached its minimum volume, and the small annual snowfall was enough to keep it unchanged. Some years previously a young German explorer, Trinkler, had visited this lake. He was shortly afterwards killed at Hamburg in a motor-car accident, and it would be appropriate if the lake were named after him, as the present name is meaningless and very far from distinctive.

Though the day was dull, the lake stood out blue and cheerful against a background of dingy clouds. Beyond the lake was a long line of conical hills which, by some trick of memory, recalled the Twelve Pins of Connemara. I thought what a grand sight this lake had been in the days of its zenith when its azure waters lapped the dead shore on which I stood. Central Asia abounds with such natural tragedies, such scenes of departed splendour, of forgotten lakes and rivers now mere wastes and belts of shifting sand.

All that day we saw only one small spring of fresh water. We came to the top of a slight ridge, the Konka La or pass, no more than a low saddle but which marked the watershed between the eastern Lingzi Tang and the real Tibetan plateau. Some miles the other side we camped at Lungpa Skydpo, and just after the tents were up, a thunderstorm broke, and deluged the country with snow and sleet. But we did not mind, as I had shot a Tibetan antelope and all the camp was agreeably gorged with meat. The name of the camp meant the place of good feeding, and was so called because of the grass which felicitously grew there. In fact, it was the only place where we found grass of any value during our wanderings over this plateau. True, it was not very good grass, and appeared to me dry, flavourless, and innutritious, but apparently the animals ate it willingly, and beyond that nothing else mattered.

In this delectable spot we found the " Changpas " or Men of the North, pleasant dirty nomads of the tribe which spends its whole life in wandering over the chilly wastes. These men take salt to Leh or any other convenient mart and exchange it for flour or goods. All they need is a little tea, parched barley, and a few odds and ends such as needles, some tobacco for snuff, a utensil or so, and little else. They lived in low black tents made

of the hair of their yaks. They never washed, paid no taxes, were uneducated, and were perfectly happy, contented and carefree. They had never seen a wheeled vehicle or any of the simplest devices of our bogus civilisation. Their tents inside were festooned with the limbs and interior parts of their sheep which in lifetime had carried salt and flour. Although the climate of Tibet is dry and cold, it could not freeze this mass of offal, the effluvia from which drove us gasping from the tents. Besides the stink of flesh in varying degrees of putrefaction, there was a pell-mell of decaying uncleaned skins, ragged garments stale and foetid, foul wooden utensils, and a holus-bolus of rubbish, the whole contents combining in one overwhelming crescendo of stench. In the midst of this, the occupants, male and female, sat smiling, bland, and indifferent. Environment is so much a matter of taste. My own followers, from Hunza, fled in disgust from this horrible scene, but the Nono and his fellows spent hours huddled in these tents, oblivious to the devastating reek. The Changpas said that they were taking their salt to Nubra, a most fertile valley in Ladakh, where the salt would be emptied out and the bags filled with grain—a simple transaction, agreeable to both parties.

Lungpa Skydpo was in the centre of the Aksai Chin, and when we saw, on the morning after our arrival, the whole countryside covered with snow and the low billowing clouds promising more, we thought that the description of a " white desert " was appropriate. As a matter of fact, the desert is called " white " rather because of the salt efflorescence everywhere than for the casual falls of snow. Beyond Lungpa Skydpo the country improved. There seemed to be less salt—we even found two or three little springs of fresh water—and there was a fair supply of burtsa. The grass was fair and we hoped that a rest of two or three days would do the animals good, whilst we shot meat to feed our ravenous followers and drew maps. Cold though it was, the snowfall was always so scanty as to give little moisture to the dry, friable soil.

We wandered over the low, gentle, undulating hills that looked so easy, and proved so tiring to our legs as we were about 17,000 to 18,000 feet above sea-level, and breathing was growing difficult. The scenery was generally disappointing, and from the tops of these down-like hills there was nothing spectacular, except possibly the massif of Nang Ri, towards the east, and in Tibet proper. Towards the west we could see the outline of the Karakoram, looking almost tame and certainly unimpressive. To the north were the Kuen Lun Mountains, which were now quite near, and appeared bleak and barren. Two kinds of grass were found here. One was coarse, tall, strong-growing stuff and abundant. The other was thin and wiry, but good grazing though far from plentiful, partly because every animal ate it but chiefly because it was not naturally prolific. I even found a dwarf purple aster with a stalk half an inch long.

We left Lungpa Skydpo after a stay of three days, crossing a plain which looked like firm ground but into which we sank for several inches. It was the Tang Melong or Plain of the Mirror, because it shimmered in the sun, so we were told—a pretty conception and an unusual one in these thick Ladakhi skulls. Beyond this plain, we entered the Sul Meru or Range of Red Furrows, went over a pass 17,400 feet high and camped beyond. The night was clear with brilliant starlight, but the wind blew steadily and everything

froze that could freeze. We grumbled and groused, though without cause, as we had good shelter, ample food, and warm bedding. Here let me observe that there is nothing in this world except a sheepskin or similar garment that will keep out the wind, and the nice little vestments that are advertised as wind-proof are useless in these cold regions. But the sheepskin must be one and indivisible and not a patchwork of odd skins sewn together.

The day following was a perfect one, except for the wind which roared out of a sky which was unmarred by the faintest wisp of vapour, a sky faint and pale, unlike the robust blue of the Himalayan heavens. Before us lay a great turquoise lake, and beyond were the Kuen Lun Mountains. We camped by this lake at a spot called Am Togor, which means a " mouthful of clods of earth," referring to the hummocks of grass and mud close to the water's edge. Everywhere was salt. The lake was brine, great piles of salt, dry and evaporated, lay everywhere on the land, and the snowlike efflorescence glistened in the sun. Yet in the midst of all this salt was an excellent spring of fresh water. The lake was kidney-shaped, with its concave side to the south. This lake had no name at all, yet it was a well-known centre for the collection of salt which was ready for loading by the sheep caravans.

We were now anxious about the animals which were showing signs of exhaustion, although we had nursed them with all the care we could. The truth is that no grass-fed animal has any stamina, and when it is regularly worked, its endurance steadily lessens. This was the case of our own beasts, and our one hope was to reach the ample pastures of the Kuen Lun before it was too late. As we were leaving Am Togor a Tibetan antelope bounded through the camp, pursued by a lame wolf. Our two dogs joined in the chase but could not stand the pace, and both antelope and wolf vanished.

We crossed a tongue of land and followed the southern shore of the lake. The soil was soft and spongy and very trying to our pack animals. We found a number of salt diggings near the lake. The process of extraction was simple. A deep pit was dug, the water (which was brine) flowed in and, partly by evaporation and partly by absorption, quickly disappeared leaving a solid mass of salt of great purity. There is usually a little borax present in all Tibetan salt, but in this case there was very little.

There were many beach-marks by the side of the lake which showed that the water had sunk considerably.

After leaving the lake, we went through low hills covered with coarse sedge-like grass which the animals ate greedily. But it was poor stuff, yellow, dry, and stale. We were now in the foothills of the Kuen Lun, with the Aksai Chin on our left, a great blister of monotonous steppe. There was not a trace of water, but on leaving Am Togor I had made the men fill every utensil we had, especially two large petrol tins and two large bladders which belonged to the ponymen. We camped near a little hillock, and dug fast and furiously for water but found not a trace of moisture. A little snow fell, dry, fluffy stuff like cotton-wool, which we scraped off our tents, but it proved of little value and hardly gave a teapot of water. I kept the water we had brought in my tent under my eye, as I had learned the danger of trusting it to the improvident followers.

We started early the next day, and could see the Yangpa valley, at the head of which was the Khitai Dawan or pass, and knew by this that we were practically in sight of our goal. The ground was deplorably trying. The

wretched ponies sank up to their hocks in the soft clay and were manifestly failing. They had had nothing to drink for thirty-six hours, and their bellies were full of the innutritious worn-out sedge. At the foot of a long slope, with the ground as soft as a batter-pudding, the animals collapsed. My head man, Daulat, said there was water close at hand, but we were too concerned about the animals to dare to risk failing to find it, for it was no easy matter to discover a little spring in an uncharted and empty desert. We had reached the Yangpa River, a sluggish, narrow stream of thick salt liquid and most evil-smelling.

We now realised that we were done: we had to return to save our animals, and incidentally ourselves, as without transport we could never survive. Gloomily we turned about and struggled back as well as we could to Lungpa Skydpo, rested there as long as our food allowed us, and eventually reached Leh. It was a great disappointment, for two more marches would have brought us to the mountains of the Kuen Lun, where we should have found good grazing, ample fuel, and the satisfaction of our needs.

The results of this journey were, however, not wholly negligible. We had mapped a thousand square miles of new country, besides correcting much of the existing maps. We had first-hand knowledge of the limitations of the Ladakhi and even more of his animals, which proved quite useless beyond the beaten track. We had had an interesting trip which more than compensated for the cold, discomfort, and bad temper, and we had had that satisfaction which is increasingly hard to achieve, of having been in places where no previous paleface had set foot.

NOTE

The names in the article are given as spelt in the map, but the orthography needs revising. For instance, TANG, a plain in Tibetan, is better spelt THANG.

Both the large lakes, one called SARIGH JILGA NANG TSO, which is meaningless and which I suspect as being foreign as no Tibetan would ever muddle up two languages, and the other lake at AM TOGOR, have no names at all. I proposed calling one " Lake Linlithgow " after the Viceroy of India, and the other " Hari Singh " after the ruler of Kashmir, H.H. the Maharajah Hari Singh.

My sensible suggestions annoyed the Survey of India, who dislike the practice, common throughout the world from Tasmania to the Bering Straits or from the Falkland Islands to St. Petersburg, of giving personal names to places.

[The P.C.G.N. Second General List of Asiatic Names (1930) gives KUNLUN MTS., as supporting Wade's transcription K'UN-LUN-SHAN (Chinese). Mr. Aurousseau has kindly drawn attention to the change of KUEN LUN on the Survey of India 1/M sheet of 1914 to KUN LUN in the 1934 edition. SKYDPO LUNGPA is shown on the quarter-inch sheet. ED.]

DURNESS PARISH

By Peggie M. Hobson

" Durines is a portion of land, verie pleasant and profitable, lying upon the northwest poynt of Scotland. I doe verelie think that ther is no land directlie north from the poynt of the nesse of Durines ; at least ther is none found out as yit."

Sir Robert Gordon. 1630.

Durness, which constitutes the north-western extremity of Scotland, is its emptiest and probably its remotest parish. It is bounded by the sea on the north and north west (Cape Wrath : 58° 37′ N, 5° W), by a watershed on the south west, by high mountains on the south, and by dreary moorlands on the east. The area of the parish is 149,770 acres, and it measures 25 miles from north to south and 17 miles east to west : it is now the second largest parish in Sutherland, but until 1724 it included also the modern parishes of Tongue and Eddrachillis.

Relief and Structure

Durness is essentially a highland parish ; there is little land below 500 ft., and in the central knot of mountains several peaks rise to heights approaching 3000 ft. The main rivers flow northwards to the Kyle of Durness or to Loch Eriboll which are the only inlets interrupting the line of north coast cliffs. There are three islands in the parish: Garbh-eilean and Hoan off the north coast, and Eilean a' Choaridh in Loch Eriboll. Hoan and Choaridh have been inhabitated, but they are now used only for grazing.

This stretch of coast is wild and rugged in the extreme ; it is exposed to the full force of the Atlantic gales, and before the lighthouse was erected at Cape Wrath (in 1827) wrecks occurred here with alarming regularity. Four main types of coast may be distinguished :—

Cliff coast. Except around the inlets mentioned, high precipitous cliffs, whose characters depend on local variations in geology, are the outstanding feature of the coast. These cliffs include the highest on the mainland of Britain, and the numerous stacks, caves, geos and natural arches, as seen around Cape Wrath and Whiten Head, bear witness to the tremendous force of marine erosion here.

Sandy bays occur at Kearvaig (Cearbhaig), Balnakeil, Sangomór and Sangobeag, and Ceannabeinne. These, particularly at Balnakeil, contain large expanses of shell sand and are backed by immense dunes built up by the force of the winds.

The Kyle of Durness is a shallow, winding inlet : at one time small vessels could enter it,[1] but now it is rapidly filling up with sand.

Loch Eriboll, a deep, sheltered fiord, has been famous for centuries as a safe, sheltered anchorage ; it was to this loch that the first surrendered German submarines were brought in in May 1945.

Much of Durness is composed of wild, inaccessible mountain country. The gentler mountain slopes, however, and the plateau of the Parph afford pasture lands for sheep ; the only true lowlands are in Strath Dionard,

along the Kyle of Durness and in the Durness peninsula. The parish can be divided into three main physical divisions :—The Parph, between the Atlantic and the Kyle of Durness ; Durness proper, between the Kyle of Durness and Loch Eriboll ; West Moine, between Loch Eriboll and the Moine. Within these divisions five main masses of upland can be distinguished :—

The Parph. This is an undulating plateau rising in places to over 1500 ft. It is a bleak moorland region and much of it is pure peat hag.

The Central or Ben Ceannabeinne Mountain Ridge extends from Ben Ceanna-

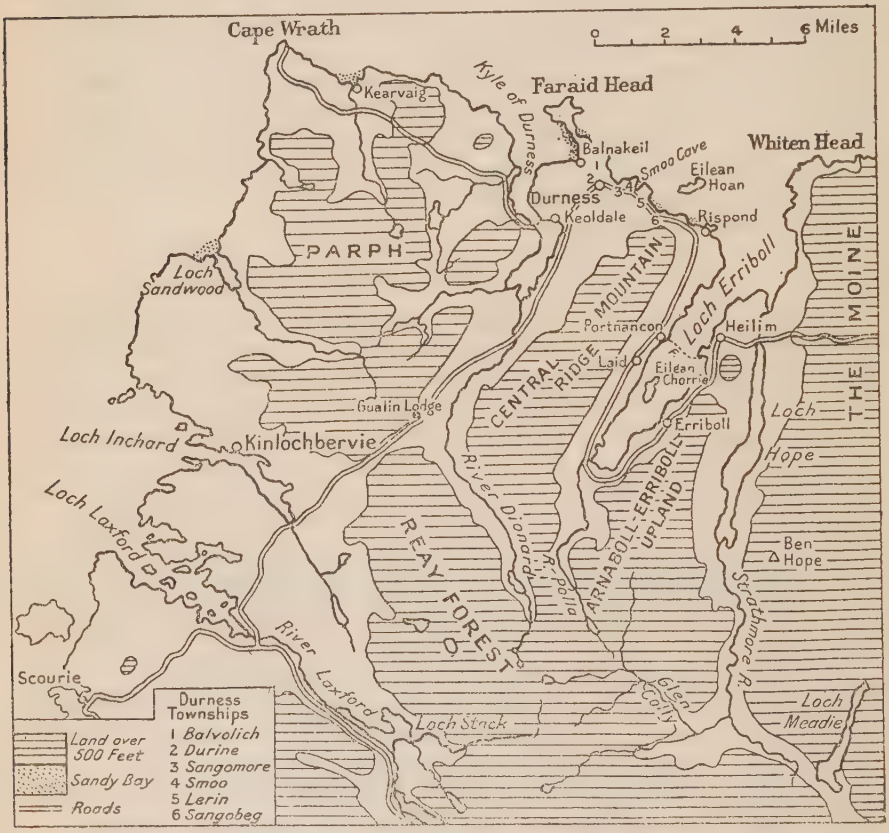


Fig. 1. Durness, NW Sutherland. Physical features.

beinne to Strath Dionard increasing in height towards the south. It has a NNE-SSW alignment and includes the high mountains of Cran Stackie and Ben Spionnaidh.

The Reay Forest is the central knot of mountains broken up by deep valleys and wide, steep-sided corries. It includes all the mountains above Lochs More and Stack as well as the scree-encircled peaks of Foinaven and Arkle. Most of the Reay Forest proper, however, belongs to the parish of Eddrachillis.

The Arnaboll-Eriboll upland is bounded by Loch Hope on the east, by Loch Eriboll on the west, and it extends to Glen Golly in the south. The

surface here, although not very high, is very rough and broken owing to its proximity to the Moine Thrust Plane.

The Moine and Ben Hope. Ben Hope is the only mountain in the parish to exceed 3000 ft. in height. It is an isolated mountain surrounded by the desolate wastes of the Moine.

With the exception of the Parph all the uplands are mountainous in character ; they have steep slopes, they have been extensively glaciated, and they are dissected by deep, U-shaped valleys. The lowland areas in the river valleys are wet and inaccessible and do not now provide land suitable

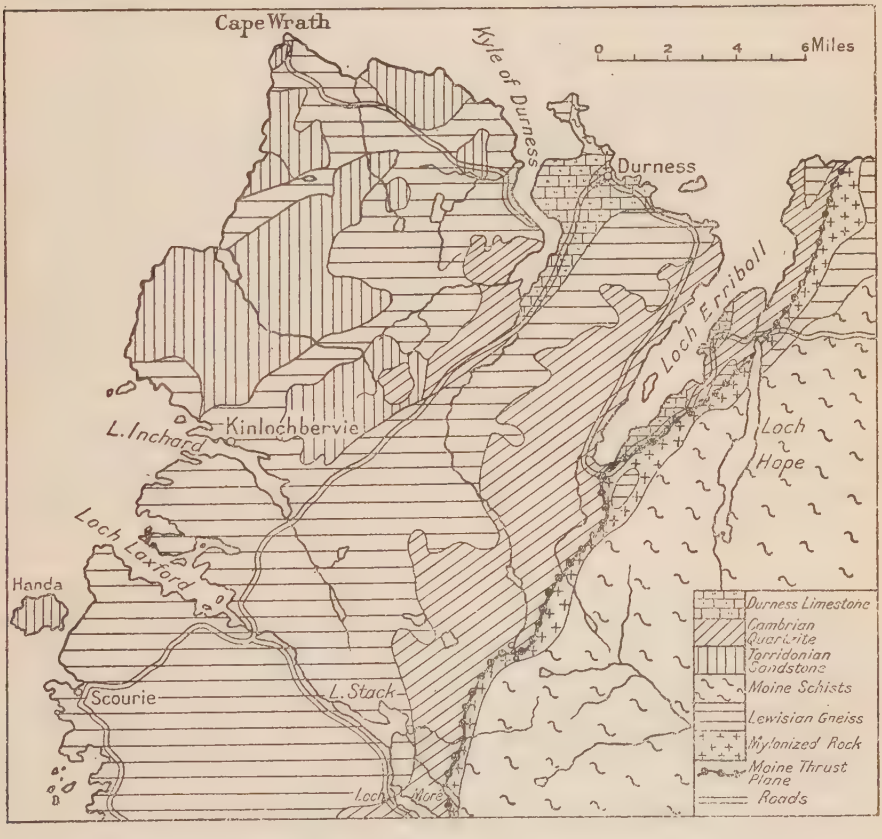


Fig. 2. Durness, NW Sutherland. Geological sketch map.

for cultivation. The only rich lowland regions are found where the limestone outcrops, namely, at Durness, Eriboll, Keoldale, and Balnakeil.

The rivers are swift flowing and bring down an abundance of coarse, gravelly material largely derived from the moraines through which they flow and from the products of erosion. They all flow northwards and the largest ones, such as the Dionard, the Polla, and the Strathmore river, occupy wide, flat-floored valleys unmistakably carved out by the action of moving ice.

The lakes are irregular in shape and in distribution : Loch Hope is the largest, while the lochs of Ben Hope and Loch Dionard are also of

appreciable size. There are numerous corrie lochans among the mountains ; on the Parph, lochans of varying shapes and sizes occupy hollows in the peat. Around Durness village there is another group of lochs formed partly by solution of the limestone, *e.g.* Lochs Crosspuill, Borlay, and Caladail.

Most of the parish lies to the west of the Moine Thrust Plane, along which great movements carried the Moine Schists north-westwards over the Cambrian, Torridonian, and Lewisian formations. The Moine Schists outcrop to the east of the Thrust Plane ; immediately to the west of it is a north-south outcrop of rocks of Cambrian age, and further west again are the ancient Lewisian Gneisses overlain in places by Torridon Sandstone.[2]

Each formation produces its own landforms, and there can be few regions where geology has a more striking effect upon scenery. The Durness Limestones of the Cambrian series give good agricultural land, and they are responsible for the karstic features of topography as seen at Smoo ; here, the Smoo burn plunges into a swallow hole and descends as a waterfall into the caves beneath. The Cambrian Quartzites, however, give the poorest soil imaginable and, when capping high peaks, they give rise to steep, loose and dangerous screes. The Torridon Sandstone gives bleak, badly drained moorlands, but on reaching the coast it forms magnificent perpendicular cliffs. The Lewisian Gneiss usually forms a lochan-dotted and boulder-strewn landscape with huge expanses of bare rock exposed at the surface.

Recent deposits have little effect upon scenery, but, in places, pockets of boulder clay or stretches of blown sand greatly improve the arable land. Climatic conditions are highly favourable to the accumulation of peat, which is abundant everywhere and still forms the main source of fuel in this region.

Climate

Durness has an essentially maritime climate, exhibiting characteristics typical of an area exposed to the full force of Atlantic influences and at the same time backed by land of high relief. Meteorological observations are taken at Cape Wrath Lighthouse, but no long-period averages are available. The Cape Wrath figures give a general picture of the climate of the parish, but in so large and varied a district numerous local climates are inevitable.

Although the winter temperatures are mild and frost and snow infrequent at sea level, the heavy rainfall, the strong winds, cool summers and lack of sunshine make the climate here both enervating and unpleasant : it is one of the greatest drawbacks to the region, being particularly detrimental to agriculture and to the tourist trade. During the five-year period from 1941-5 the January average temperature was 39·2° F. and that for July, 54·0° F. (a mean annual range of only 14·8° F.). Rainfall is heavy throughout the year, with a maximum in autumn and, as a rule, a minimum in spring : the rainfall régime here is exceptionally variable, so that short-term averages are more than ordinarily dangerous and unreliable. (On the rainfall graph below, April and September figures are abnormally high, for in 1943 over 14·5 inches of rain fell in each month.) Atmospheric humidity is always very high, as is the number of rain days throughout the

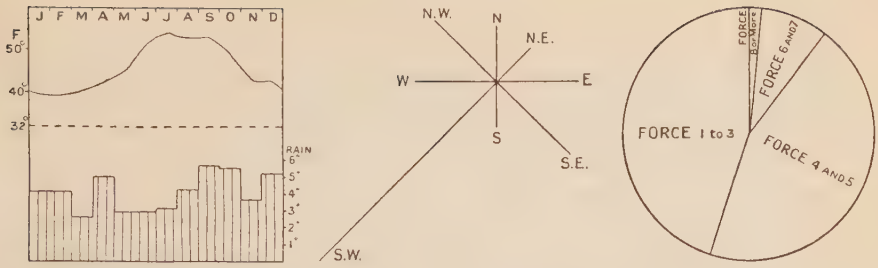


Fig. 3. Cape Wrath (58° 37′ N, 5° W ; 370 feet). Temperature and rainfall, wind direction, wind force (5-year averages).

year. At Lairg the average annual rainfall is 37·30 inches, but the distribution is not unlike that for Cape Wrath whose total (five-year average) is 49·54 inches. Skerray Borgie, sixteen miles east of Durness, has 37·5 inches, while Achfary, Loch More, which is surrounded by mountains, receives over 70 inches in the year.

The accompanying wind rose shows clearly the predominance of the south-west wind at Cape Wrath, but wind direction and especially wind force are very variable from part to part, although the south-west is everywhere the prevailing wind and brings the greatest amount of precipitation with it. Sunshine totals are not recorded at the Cape, but although the amount of cloud is high visibility is usually good.

Tenths of sky covered . . .	0	1–3	4–6	7–9	10
Average number of days per annum	0	10	34	234	87

Vegetation and Fauna

Durness is an almost treeless parish, so that the coniferous plantations around Loch Hope and the scattered trees in sheltered straths are quite exceptional. Huge areas are completely devoid of vegetation ; elsewhere moorland grasses, heather and some bracken are found, while in every valley and hollow peat accumulates to a tremendous depth. The Durness limestone gives rise to excellent pasturelands, the downland turf between Keoldale and Balnakeil being probably the best grazing land in Sutherland. Blown sand, once it has been fixed by marram grass, gives a machair type of vegetation providing both good grazing land and, later, land suitable for cultivation.

All the old writers on the district make frequent references to wolves and to the forked-tail deer on Arkle ; and to-day many forms of wild life are still common in Durness which have become quite rare in more frequented spots. The cliffs are the homes of myriads of sea birds ; eagles are liable to swoop down and injure lambs in spring (Arnaboll, between Eriboll and Hope, means the township of the eagle), corncrakes can be heard incessantly in summer, and wild-cats are seen occasionally among the hills. The rivers and lakes abound in fish, and the Hope and Dionard have been salmon rivers of wide renown for many years.

Historical Notes

Durness possesses a considerable share of Sutherland's prehistoric relics,[3] and among them are the 24-foot high broch of Dun Dornadilla in Strathmore and the earth houses of Eriboll and Portnancon ; the latter is one of the largest and best preserved of its kind in Britain.[4]

Culdee missionaries founded a monastery at Balnakeil on a site which was excellent for agricultural pursuits; although it was a centre of learning for two hundred years, it suffered the fate of all such establishments under the Norsemen. Norse influences still remain, both in the place-names and in the characteristics of the people. The invasion began in the ninth century, and the period of occupation lasted throughout the tenth, eleventh and twelfth centuries. The Battle of Largs (1263) marked the end of Norwegian rule in Scotland, and after this the beginnings of the clan system were initiated to guard against future similar invasions.

In the extreme north-west the two leading clans were the Mackays and the Sutherlands, whose chieftains often had tremendous powers within the district. The grave of one of them can still be seen in the ruined church at Balnakeil, on whose walls there is an inscription which reads :—

Donald Mac-Murchon
Hier lyis lo :
Vas il to his freend
Var to his fo :
True to his Maister
In wierd or wo.
1623.

Within the churchyard there is a large monument, erected in 1829, to the memory of Rob Donn, the celebrated bard of the Reay country.

There are several interesting early descriptions of this region, which include the notes made by Timothy Pont on his crude maps at the end of the sixteenth century and the writings of Sir Robert Gordon in 1630.[5] There is also a description in Blaeu's Atlas,[6] and the map of Extima Scotiae shows the relative positions of the various provinces: the northern half of modern Sutherland was then called Strathnaver and Sutherland was the southern part of the Norse domains, *i.e.* to the south of Catenes or Caithness. The present boundaries of Durness date from 1724 when a division of the former parish was made into Durness, Tongue, and Eddrachillis at the instigation of the minister. In 1744 Alexander Bryce published an excellent map of the north coast of Scotland which settled finally that there are two headlands west of Durness—the one at Cape Wrath, the other at Faraid Head.[7]

The more prosperous and settled conditions which came to most of the Highlands after the ' Forty-Five ' were little felt in Sutherland, as before the end of the eighteenth century the Clearances had begun. A notable redistribution of population subsequently took place : the glens were emptied to make room for sheep, many people emigrated and others settled on the coasts to eke out a living between agriculture and fishing as best they could. Serious congestion resulted in the neighbourhood of Durness village and several of the present townships are of post-Eviction origin. The Old[8] and New Statistical Accounts[9] show clearly the contrasted conditions before and after the Clearances, while the general features

of the agriculture of the county were described by Henderson for the Board of Agriculture in 1812.[10] Throughout the nineteenth century the position of the crofters was precarious and unsatisfactory, but in 1886 the Crofters Holdings Act gave them that security of tenure which has later been safeguarded for them by the Scottish Land Court since its formation in 1912.

Settlement and Population

The settlement pattern in Durness at the present day dates from the clearing of the glens for the establishment of sheep farms. Almost all the settlements now are coastal in location but there are distinctly different types.

Crofting townships. These are eight in number, seven of them constituting the Durness area between Balnakeil and Rispond, and the eighth, Laid, is ten miles distant on the west shore of Loch Eriboll. The Durness townships are :—Achines (1 holding), Durine (17 holdings), Balvolich (5), Sangomór (21), Smoo (6), Lerin (9,) Sangobeag (5). They are all small, and most of them are linear in shape either along a main road or a township road. Laid consists of 19 holdings ; as it is on the basal Cambrian Quartzite, it is a very poor township agriculturally.

Sheep farms. There are three large sheep farms, each of them situated on an outcrop of the Durness Limestone. They are at Balnakeil, Eriboll, and Keoldale : the first two are privately owned, the latter is the property of the Department of Agriculture.

Shooting lodges. The shooting lodges in Durness are few in number, and none of them supports a large community : they are at Hope Lodge, Gualin, Smoo, and Gobernuisgeach.

In addition to the above types of settlement there are the light-keepers' houses at Cape Wrath and several isolated shepherds' houses.

Durness, with a population of only 529 in 1931 and an average density of only 2·4 persons per square mile, is the emptiest parish in Scotland. Since 1931 the figure has dropped still lower, continuing a decline in population which set in nearly a century ago :—

Year	Durness Parish	Sutherland
1755	1,000	20,774
1790	1,182	22,361
1801	1,208	23,117
1811	1,155	23,629
1821	1,004	23,840
1831	1,153	25,518
1841	1,109	24,782
1851	1,152	25,793
1861	1,109	25,246
1871	1,049	24,317
1881	987	23,370
1891	960	21,896
1901	870	21,440
1911	835	20,179
1921	610	17,802
1931	529	16,101
1946	352	14,400 ?

The distribution of the population is very uneven, the large majority of the people living in the coastal townships in the immediate vicinity of Durness village. Unfortunately the age groups for Durness and Eddrachillis are grouped together in the 1931 Census Returns, but the numbers of those over and under 14 years of age, in Durness parish alone, are given below for 1931 and 1946:—

		1931			1946		
		Over 14	Under 14	Total	Over 14	Under 14	Total
Crofting areas	Durness townships	226	46	272	161	42	203
	Laid, Portnancon	61	8	69	44	10	54
Sheep farms	Balnakeil	10	3	13	6	4	10
	Keoldale	19	4	23	9	0	9
	Eriboll	29	11	40	13	7	20
Other areas	Cape Side and C. Wrath	22	3	25	15	4	19
	Kyle of Durness area	17	9	26	10	8	18
	Strathmore	15	7	22	10	0	10
	Hope Lodge area	22	14	36	8	1	9
	Total	421	105	526	276	76	352
	Per cent.	79·8	20·2	100	78·4	21·6	100

It will be seen that the decrease is spread throughout the population and that it is proceeding very rapidly : crofting alone can no longer provide a living, and at present there are practically no alternative or supplementary means of employment. The war took many young people away from the district and, apart from the lack of employment, they are not all prepared to settle here now owing to the isolation, poor transport, and to the lack of amenities and amusements to which some of them have become accustomed. Sporting estates do not employ the numbers that they did once, and it is difficult to find shepherds who are prepared to live in the extreme isolation of the distant pastures of the sheep farms.

Human Activities

Crofting. Seventy per cent. of the people of Durness live in crofting townships and most of them still work a croft. The township is the recognised unit for official purposes, but in this area each township is so small that all combine for communal work which constitutes one of the fundamentals of crofting life. Each crofter pays a small annual rent to the landlord, and this entitles him to work a few acres of arable land, to use the Common Grazings for his stock, and to cut peats for fuel. He cannot be evicted; his home is his own property and he can bequeath his croft to his heirs. As he is an agricultural subject, his rates are much reduced, which is one reason why the County Councils in the crofting districts derive so small an income from this source.

Crofting is the nearest approach that we have in this country to subsistence agriculture ; each crofter keeps his own cow, he has his own sheep and poultry (pigs are not popular in the crofting areas), and he grows oats, hay, potatoes, and turnips for feeding to his stock. Barley and oatmeal were once milled at Balnakeil, but all meal is now imported and no barley

grown at all. In Durness all the crofts are individually fenced and the arable land is laid out in strips usually above and below the houses. The limestone plateau gives a surface which is suitable for cultivation, and the use of the Department of Agriculture tractor is rapidly replacing the horse plough. Artificial fertilisers, as well as farmyard manure, are widely used to-day, but there are also large local supplies of seaweed and shell sand, of which the former was widely used when cultivation was in lazy-beds.

The Durness Grazings (occupying much of the Ben Ceannabeinne Ridge) cover an area of approximately 7000 acres and are shared by all

Fig. 4. Parishes of Sutherland and their population.

the townships except Laid : the souming determines the amount of stock to be pastured on these grazings. In Durness the souming depends upon the rent ; for every £1 rent a crofter may keep eleven sheep or six sheep and one cow (one cow is counted the equivalent of five sheep, and one horse of seven sheep) ; some of the Durness horses are kept in a separate park at Keoldale. An average rent is between £3 and £6 per annum, but in Laid rents are usually lower.

The local Grazing Committee, which is responsible to the Scottish Land Court, employs two shepherds. It is responsible for the organisation of gathering, dipping, tupping, etc., for arranging the driving of lambs to

Lairg market in August, and for the control of animal disease. Cheviot sheep are the main source of income in the Durness district, and several crofters have a share in the Sheep Stock Club at Keoldale Farm. On the dairying side the general practice is to sell off the calves at Dingwall market at from two to three weeks old, unless a heifer calf is to be kept and reared. The Department of Agriculture supplies the bull, which is usually kept in the district for three years ; Shorthorn and Aberdeen Angus breeds are supplied alternately.

Under present conditions, crofting cannot provide a living but it does provide a home at a low cost ; the croft provides some food and fuel (with the expenditure of much time and labour), and although the crofter is assisted by various Government subsidies, grants and loans, the area cannot hold even its present small population and the southward drift continues unabated.

Sheep farming. The sheep farms of Keoldale, Eriboll, and Balnakeil are 29,000, 30,000, and 25,000 acres in area, respectively. Each has a stock of approximately 5000 Cheviot sheep and each has varying types of pasture land according to relief, aspect, and geological formation.

Keoldale was bought by the Department of Agriculture after the 1914-18 war and run as a club sheep-stock farm for ex-Service men. The stock is the property of the forty-three shareholders, and the farm is run by a secretary and worked under a farm manager. There is some excellent arable land around the farm ; all the crops are grown exclusively for feeding to the sheep, which since the beginning of the war have had to be wintered here. Cattle were of no interest on this farm until recently, although they have long been kept at Eriboll and Balnakeil.

Like Keoldale, Eriboll and Balnakeil are on the Durness Limestone : they too have widely scattered pastures and all the farms employ between six and eight shepherds as a rule. The wedder lambs are usually driven to Lairg in August, where they often fetch the highest prices of the season.

Agricultural Statistics. Durness Parish

	1912	1938	1945
Crops (Acreage)			
Potatoes	57	28	25
Oats	254	121	119
Turnips and swedes	98	43	45
Bare fallow	1	4	0
Rye grass and rotation grass	222	228	213
Permanent grass	532	438	449
Rough grazing	91,087	111,782	108,444
Live-stock			
Total horses	107	49	33
„ dairy cattle	448	133	164
„ beef cattle		139	386
Total sheep	28,655	26,571	26,305
Total pigs	23	4	1
Total poultry	?	1,548	2,125

The above figures show something of the changes which have taken place within the last thirty-five years, but as they include both the crofting

SANGOMÓR

DURNESS

SMOO

LOCH ERIBOLL: HEILIM AND EILEAN A' CHOARIDH

KEOLDALE, KYLE OF DURNESS

lands and the sheep farms, few conclusions can be drawn from them. Significant figures, however, are the reduction in the acreage of oats and arable crops and the increase in the rough grazing area. The decrease in the numbers of horses is due to the use of tractors as well as to the reduced acreage of cultivated land. The increased numbers of cattle shown in 1945 are due to larger herds, especially of beef cattle, being kept on the sheep farms ; there has been no increase in the numbers of cattle on the crofts.

Fishing, Sport, and Tourist Trade. At one time fishing was an important activity here, but to-day lobster fishing alone is carried on commercially. Salmon have been netted at Keoldale recently, and in the past, Rispond was a flourishing centre for the herring fishing trade. Whitefish are caught for local use or for bait for the lobster creels, but there are only a few lobster fishermen now who set out from Smoo in summer and from Rispond in the winter. Being so far from Billingsgate, this industry would undoubtedly be an uneconomic proposition but for the assured high prices paid during and since the war.

The sportsman is a more certain source of income than the fishing industry but he only provides work at one season of the year. As Durness is the property of several landowners and as it includes three immense sheep farms, there are no vast sporting estates as are found in Assynt and in Eddrachillis.

Apart from anglers staying at the Cape Wrath Hotel, Keoldale, Durness has a small amount of tourist traffic consisting mainly of motorists and cyclists in search of Smoo Cave and the lighthouse at Cape Wrath.

Other industries. At the present time the natural resources of Durness parish are not being exploited to their fullest possible extent. There are vast reserves of limestone, dolomite, and some pegmatite; there are large reserves of peat, and there are lakes and rivers suitable for the provision of electric power. The old limekilns at Heilim have not been worked for sixty years and there is no suitable supply of labour available to cut peats for export. The North of Scotland Hydro-Electric Board have examined the water-power resources here ; remoteness and the sparseness of the population make the possibility of electricity for all an unlikely one. The attention of the Advisory Panel for the Highlands has been drawn to the presence of millions of tons of easily accessible supplies of dolomite, and already tentative enquiries have been made about them. The Seaweed Research Association has surveyed the resources of all seaweeds around the Scottish coasts, but the Durness district is not likely to be able to supply the types required for industrial purposes.

Durness

The crofting lands of the Durness townships are continuous, and although there is no obvious village street, the township of Durine acts as the ' urban centre.' Durine, one of the oldest settled parts of Durness, is a windswept, treeless place, but its level surface and rich, black soils make it a favoured area in this bleak corner. The school, the hotel, the general store, the post office and the village hall are all in Durine, and here, too, there is a resident doctor and a district nurse. The Church of Scotland manse is near by ;

the church now in use (the old United Free Church) is in Sangomór. The original Durness church was at Balnakeil, the old Established Church, now used as a hall, was also in Durine. The school now (May 1947) has twenty-eight pupils, and those proceeding to a secondary school go to Golspie or Dornoch, both approximately eighty miles away. The mail bus arrives each evening from Lairg, but the Cape Side people receive only three posts per week, as their only access with Durness is via the Keoldale ferry. Telephone services, of inestimable value in such an isolated place, have only been available here since 1935.

Being so far from a town and over twenty miles from the nearest villages —Tongue to the east and Kinlochbervie to the south-west—Durness has to be as self-sufficient as she can in spite of her small size. She has her own craftsmen—a cobbler, joiners, smiths, masons, etc.—and she has her own social organisations—a football club, Boy Scouts, a Women's Rural Institute, a British Legion branch, and a Highland Gathering Committee, etc.

Although Durness was once largely self-sufficient for food, fuel, building materials and fertilisers, ever-increasing quantities of these goods are now imported, the freight rates often making costs excessive. Lack of transport is undoubtedly one of the gravest drawbacks here ; there is now a good road to Lairg, but the only means of transport is the mail bus which, in addition to mails, carries passengers and goods. Durness is no longer served by any cargo boat, and the piers on Loch Eriboll are now unsafe. At one time, vessels came regularly to Portnancon (Loch Eriboll) from Aberdeen and others from Orkney to Rispond. Durness is too small and too remote to benefit from existing air routes which serve Wick, the Orkneys, Shetland, and the Outer Hebrides ; while these areas are being placed upon the map, so the isolation of all the north-western district becomes intensified.

The houses generally are good and strongly built, as many crofters took advantage of loans and grants for rebuilding and for improvements. Gardens will grow good vegetables and small fruit ; the cool, short summers and the frequent strong winds rule out the growth of orchard fruits. Some of the people turn these strong winds to good account by using them to provide electric power. It seems probable that domestic water supplies will soon be improved.

In any crofting community the work of the women is particularly hard and heavy : water has often to be carried, lamps must be cleaned and trimmed, and peats must be brought in for the fire. The women attend to the milking and to the dairy work; they are always responsible for the poultry, and in summer time their help is needed on the croft to work in the hay and the harvest and to go to the moor for cutting and stacking peat.

Conclusion

Rural depopulation in the Highlands is a much discussed subject at the present time, and it is in the north-west that the situation has reached its most alarming proportions. The report on the conference on ' Scotland's Changing Population ' held in December 1946 points out that it is the peninsular communities which are emptying most rapidly, irrespective of their natural resources. It is important to realise also that in a sparsely

populated area the time comes when any further depopulation makes evacuation inevitable, as it becomes impossible for those remaining to carry on.

In Durness, peninsularity is extreme : the village is sixty miles from Lairg, the railhead for the whole of the north-west ; it is eighty miles from the county centres of Golspie and Dornoch—only villages themselves—and it is a seven-hour journey from Inverness. This isolation is undoubtedly the gravest drawback to all west Sutherland. Although it has never supported large communities, it could, however, with better transport and with agricultural improvements, maintain a thriving rural population apart from industrial considerations.

Due primarily to geology and relief, conditions in this region are not uniform, and the situation in Durness is unique. Her coasts do not favour large-scale fishing, few areas could support commercial timbers, seaweed collection is impracticable here, and, under present conditions, the development of hydro-electricity is unlikely. It is the Cambrian limestones which provide the basis for development in Durness : they give rich arable land, excellent grazing grounds for cattle and pasture lands for sheep, and contain an abundance of mineral wealth as yet untouched.

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The illustrations are reproduced from photographs by Mr. Robert M. Adam.

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OCEANOGRAPHY

SUBMARINE VALLEYS. By L. S. Berg. *Izvestiya Vsesoyuznogo Geographicheskogo Obshchestva*, 1946, 78 (*3*) : 301-306.

REFRACTION OF OCEAN WAVES : A PROCESS LINKING UNDERWATER TOPOGRAPHY TO BEACH EROSION. By W. H. Munk and M. A. Traylor. *Journal of Geology*, 1947, 55 (*1*) : 1-26. 17 figs. 8 plates.

THE TANA FJORD : OCEANOGRAPHY OF A FJORD IN FINNMARK. By E. Theisen. *Report on Norwegian Fishery and Marine Investigations*, 1946, 8 (*7*) : 1-78. 23 figs. 8 plates.

DRIFT-BOTTLE EXPERIMENTS IN THE NORTHERN NORTH ATLANTIC. By F. Hermann and H. Thomsen. *Meddelelser fra Kommissionen for Danmarks Fiskeri- og Havundersøgelser*, 1946, Hydrography, 3 (*4*) : 1-87. 26 figs. 4 plates.

SWEDISH OCEANOGRAPHICAL EXPEDITIONS. A note emanating from the Swedish-International Press Bureau and published in *Science* (1946, 104 (*2688*) : 13) states that the State-owned research vessel *Skagerak* left Gothenburg for a three-months' investigation of the bottom sediments in various parts of the Mediterranean by six scientists, led by Hans Pettersson, head of the Oceanographical Institute in Gothenburg. By means of a new vacuum plummet, it is expected that 20-metre samples of the sediments will be obtained. These investigations will be of value in preparing for the large-scale Swedish expedition which will start in 1947 on a fifteen-months' voyage to carry out research chiefly in the tropical zone within the areas of the equatorial countercurrent in the Atlantic and Pacific. This deep-sea expedition is to be undertaken on board the training ship *Albatross* (1100 tons).

OCEANOGRAPHIC WORK IN THE MEDITERRANEAN. By Prof. H. Pettersson. *Geographical Journal*, 1946, 107 (*3-4*) : 163-166. 1 fig.

An account of the results of the cruise of the *Skagerak* to the western Mediterranean.

A SWEDISH DEEP-SEA EXPEDITION. By H. Pettersson. *Proceedings of the Royal Society* [London], 1947, B 134 (*876*) : 399-407. 5 figs.

Modern methods of investigating submarine sediments are described, with reference to the *Skagerak* expedition [see above]. By means of the new core-samplers, long cores are obtainable which will yield valuable clues for dating different deposit levels.

THE *ATLANTIDE* EXPEDITION TO WEST AFRICA, 1945-46. By A. F. Bruun. *Danish Foreign Office Journal*, 1946, No. 3 : 20-21. 2 photographs.

A brief account of the expedition organised by the University Zoological Museum in Copenhagen, and which made a valuable collection of animal species from the tidal zone to depths of 2000 feet along the coast between Dakar and Loanda. The expedition received much support from the British Museum (Natural History), who are to receive part of the collections. The owner of the vessel, four zoologists (including Dr. F. C. Fraser), and a crew of twelve under Captain Kraemmer were the complement on board.

CARTOGRAPHY

CARTOGRAPHY IN 1946. By E. Raisz. *Journal of Geography*, 1946, 45 (*9*) : 347-351.

THE MANIPULATION OF PROJECTIONS FOR WORLD MAPS. By E. J. Baar. *Geographical Review*, 1947, 37 (*1*) : 112-120. 3 figs.

INNOVATIONS ON NAUTICAL CHARTS. By L. M. Zeskind. *Geographical Review*, 1946, 36 (*4*) : 685-686.

A note on the introduction of bathymetric lines and gradient tints on nautical charts of the United States Coast and Geodetic Survey, and on other innovations.

CONTOUR SURVEYING : AN ADMIRALTY CARTOGRAPHICAL INSTRUMENT. *Journal of the Town Planning Institute*, 1947, 33 (*3*) : 85-87. 3 figs.

Description of an instrument for determining and displaying on a contour map the outline of the area of land which will be visible from any chosen position.

A METHOD FOR PRODUCING SHADED RELIEF FROM AREAL SLOPE DATA. By A. H. Robinson. *Annals of the Association of American Geographers*, 1946, 36 (*4*) : 248-252. 1 fig.

THE DEVELOPMENT OF THE TERRAIN MODEL IN THE WAR. By H. P. Reed. *Geographical Review*, 1946, 36 (*4*) : 633-652. 30 figs.

Models of beachheads and special target areas, accurate to a building, played an extremely important part in the planning of operations. The British-American model-making procedure is described in detail, and an account is also given of French and German methods.

THE POST-WAR PROGRAMME OF THE ORDNANCE SURVEY. By K. M. Papworth. *Journal of the Town Planning Institute*, 1947, 33 (*3*) : 61-67.

NEW MEDIUM AND SMALL-SCALE MAPS OF THE ORDNANCE SURVEY. By Major-General G. Cheetham. *Geographical Journal*, 1946, 107 (*5-6*) : 211-220. 4 figs. Discussion : 220-224.

CARTOGRAPHY OF SCANDINAVIA AND FINLAND. By N. V. Vinogradov. *Izvestiya Vsesoyuznogo Geographicheskogo Obshchestva*, 1946, 78 (*3*) : 358-363.

HISTORY OF DANISH CARTOGRAPHY. By N. Nielsen. *Geografisk Tidsskrift*, 1944-45, 47 : 114-121.

AIR PHOTOGRAPHS SPEED RECONSTRUCTION. By J. F. Grant. *Canadian Geographical Journal*, 1946, 33 (*1*) : 18-37.

44 photographs. Map of Dominion of Canada and Newfoundland showing areas covered by Royal Canadian Air Force aerial photography.

FOURTH GENERAL ASSEMBLY OF THE PAN-AMERICAN INSTITUTE OF GEOGRAPHY AND HISTORY AND THIRD PAN-AMERICAN CONSULTATION ON CARTOGRAPHY. By R. H. Randall. *Bulletin of the Pan American Union*, 1946, 80 (*11*) : 611-615.

A brief review of the meetings at Caracas, August 22 to September 1, 1946. The Fifth General Assembly of the Institute is to be held in Santiago de Chile in 1950, and the Fourth Consultation of the Commission on Cartography in Buenos Aires in 1947.

NEW ZEALAND TOPOGRAPHIC MAPS AND AIR PHOTOGRAPHS. *New Zealand Geographer*, 1946, 2 (*2*) : 370-371.

PRESENT STATUS OF "THE GREAT SOVIET WORLD ATLAS" IN THE UNITED STATES. By L. S. Wilson. *Annals of the Association of American Geographers*, 1947, 37 (*1*) : 67-72.

Owing to the war, the distribution of Volume II of this great atlas outside the U.S.S.R. has been limited to very few copies as compared with the general circulation of Volume I. The table of contents of Volume II, published as an appendix to Mr. Wilson's comments, is therefore of considerable interest. No copies of Volume III or information concerning its contents were available in the U.S.A. in 1946.

GENERAL

TERRAE INCOGNITAE : THE PLACE OF THE IMAGINATION IN GEOGRAPHY. By J. K. Wright. *Annals of the Association of American Geographers*, 1947, 37 (*1*) : 1-15.

GEOGRAPHICAL SCIENCE IN EUROPE AND AMERICA AT THE END OF THE WAR. By J. Gavira. *Estudios Geograficos*, 1946, 7 (*24*) : 525-545. 45 references.

THE TEACHING OF GEOLOGY IN SCHOOLS. Report of a Discussion held on 5th April 1946. *Proceedings of the Geologists' Association*, 1947, 58 (*1*) : 1-44.

THE SIGNIFICANCE OF V. I. VERNADSKY'S WORKS FOR GEOGRAPHY. By L. S. Berg. *Izvestiya Vsesoyuznogo Geographicheskogo Obshchestva*, 1945, 77 (*1-2*) : 22-37. Portrait. Bibliography.

VASCO DA GAMA, WITH REFERENCE TO NAVIGATION. By C. V. Sølvers. *Geografisk Tidsskrift*, 1944-45, 47 : 146-154. Chart (1509). Coat of Arms.

THE RIGHT HON. SIR HALFORD MACKINDER, P.C. By L. Dudley Stamp. *Nature*, 1947, 159 (*4042*) : 530-531.

THE JOURNAL OF GLACIOLOGY. The *Zeitschrift für Gletscherkunde* ceased publication early in the war, and the need for a central organisation to co-ordinate the diverse studies dealing with snow and ice has now been met by the broadened activities of the Association for the Study of Snow and Ice, formed in 1936, and, since 1945, re-named British Glaciological Society. In 1947, the Society issued the first two numbers of *The Journal of Glaciology*, an indispensable and attractive vehicle for contemporary glaciological thought. The original research papers read before the Society, the resulting discussions, notes, reviews, and lists of glaciological literature, with abstracts, also the illustrations accompanying the articles, are all welcome. The *Journal* is obtainable from the Secretary of The British Glaciological Society, c/o Royal Geographical Society, Kensington Gore, London, S.W. 7, the annual subscription (for two issues) being 15*s*, or 7*s* 6*d* per issue, post free.

REVIEWS OF BOOKS

EUROPE

Language as a Social and Political Factor in Europe. By Stanley Rundle. $8\frac{3}{4} \times 5\frac{5}{8}$. Pp. 207. 11 sketch maps. London : Faber and Faber Ltd., 1946. 12*s* 6*d*.

The purpose of this book is to study "the real effects which language differences have on the relations between the peoples of Europe." It should be of interest to the geographer, the business man, the politician, and the linguist. The author points out that "in the realm of international diplomacy the relations between nations speaking different languages must at one point in the chain pass through the hands of a linguist," who may be a statesman or merely a paid servant, and he regrets that "all linguists have not been peacemakers and all peacemakers have not been linguists." The trouble is that "there are racial, religious, national, linguistic, economic, strategic and political frontiers or boundaries, and that only in very few cases do any of these coincide."

This work illustrates the complications and difficulties that arise through misunderstanding and mistranslation due to ignorance or lack of care, and through differences in the historical or cultural background. It states the essential linguistic facts, country by country and language by language. It offers no hard and fast solution for the general problem but discusses objectively the various attempts that have been made towards such a solution, having some very sensible and practical things to say on the projects for an auxiliary language, whether this is to be achieved by the adaptation of some existing speech or by the creation of an artificial tongue. The book closes optimistically in the faith that "the mind of man will solve his problem ; all his struggles, his successes and his failures are working together to that end."

The numerous tables and sketch maps included would alone repay careful attention and study.

R. T. C.

Britain's Structure and Scenery. By L. Dudley Stamp, C.B.E., B.A., D.SC. 8½×6. Pp. xvi+255. 47 colour photographs. 40 photographs in black and white. 74 maps and diagrams. London : William Collins, Sons and Co. Ltd., 1946. 16*s*.

This is one of a series, entitled *The New Naturalist*, aimed at interesting the general reader in the natural history of Britain. The present volume is intended largely as a background to the whole series in that it attempts, in the words of the Preface, to present "a general view of the stage and setting of Britain's Natural History." The book falls roughly into three parts.

In the first part, the layman is introduced to the sciences of geology and geomorphology, with principal reference to Britain. In spite of the editors' claim to have "eliminated a whole scientific terminology," the general reader will, it is feared, find himself overburdened, if not overwhelmed, with technical terms. For the most part they are adequately explained, though often in a passage following their first introduction and use, so that the lay reader will constantly be harking back to re-read paragraphs in the light of later explanations.

In the second part, which is mainly a résumé of what the author has written elsewhere on the stratigraphy of Britain, the amount of detail is greatly in excess of a general reader's requirements. Not only is the Ordovician subdivided, for example, but there is a note as to obsolete subdivisions.

The third part, the regional, will be much more acceptable to the general reader. The allocation of space within this section is noteworthy—54 pages to England, 9 to Scotland, and 5 to Ireland.

There are many splendid illustrations, the photographs in colour being particularly good. Reference to them from the text is, however, exasperatingly difficult, for not only are they scattered haphazard throughout the volume, but plain and coloured are numbered in separate series. Misprints or errors are to be found on pp. xvi, 30, 47, 83, 90, 100, 214, and 228.

While it may be doubtful whether the general reader will appreciate this book, it most certainly has a value for the student who, while not a geologist or geomorphologist, does wish to explore this field. The Scottish 'Second Ordinary' or English 'General' student will find here a most useful introduction to the subject and a convenient assemblage of material which he would otherwise have to seek from a variety of sources. R. M.

Climbing in Britain. Edited by J. E. Q. Barford. 7×4½. Pp. 160. 47 figs. 18 photographs. Pelican Books, A 160. Harmondsworth : Penguin Books Ltd., 1946. 1*s*.

The novice will find this illustrated book most useful and instructive. It deals with equipment and technique of hill walking and mountaineering in a clear and concise manner. It also gives information on the various climbing areas and a list of hotels and hostels.

A. H.

Scotland before the Scots. The Rhind Lectures for 1944. By V. Gordon Childe. 8½×5½. Pp. viii+144. 24 figs. 16 plates. London : Methuen and Co. Ltd., 1946. 12*s* 6*d*.

To Professor Gordon Childe has fallen the very great distinction of having succeeded in giving both corporeal reality and a local habitation to those dim ghosts—*nomina et praeterea nil*—condemned hitherto to flutter wanly above the desolate waste of the printed page. It has not been without reason that those Russian scholars, in whose principles and practice Professor Childe has found both a stimulus and a standard, have been unrelentingly critical of that tendency of our historians to record merely the migrations of early peoples and to be content to remain either ignorant of or indifferent to the details of the daily lives of these peoples and the significance of the drama involved in the clash of their early cultures. Nor is the underlying idea of the criticism applicable only to the work of Scottish prehistorians ; it may be extended, on all too good grounds, to many other branches of Scottish historiography.

Of late years, fortunately, there has been a strong and gradually extending movement on the part of Scottish historians to break through the barriers by which they have been so long restrained. This effort at emancipation has always involved both toil and insight : the indefatigable labour of continuous research, and the not less arduous effort to view the results of that labour with a fresh and penetrating vision. With Professor Gordon Childe the labour has been unstinted and the vision at all times illuminating. The result has been twofold. We have, on the one hand, a clear and convincing picture of the daily life and work of the little communities of the Bronze Age and the early Iron Age on the wind-swept foreshores, in the forest clearings, in the Gallic forts or in the towering brochs, on the other, a moving record of this drama, played out on a stage that stretches from the Tweed to the Shetlands, of the impact on existing conditions of the invasion of various new cultures. It is a masterly record : masterly alike in conception and in execution. Professor Gordon Childe and his writings have lighted up for us the scene in Early Scotland exactly as the scene in Scotland of the days of the Roman occupation has been lighted up for us by the research and the writing of Sir George Macdonald. G. P. I.

On Scottish Hills. By B. H. Humble. Foreword by Geoffrey Winthrop Young. 10×7½. Pp. 128. 75 photographs. End-paper sketches. London: Chapman and Hall Ltd., 1946. 18*s.*

The author relates his experiences in most districts of the Highlands, giving the greater space to the south-west and western parts. The book is profusely illustrated with the author's own photographs. Many of these reach a very high standard. The book is most readable. A. H.

The Promise of the Years. By Edward Grace. 9¼×7. Pp. 120. 26 illustrations. London: Sylvan Press Ltd., 1946. 16*s.*

The promise is that made to Noah in the last verse of the eighth chapter of Genesis. This is an agreeable discursive book of travel beginning and ending at Inverness, and taking the reader by way of Glencoe, the Clyde and Arran, calm and storm in Lakeland, to the lonely silent hills of County Dublin and the wilds of Donegal. It describes, in sun and shadow, the varied landscapes suggested by those names and many human types met en route: kindly Highland folk, Cumbrian shepherds and Irish farmers, tourists from Holland and Bath. There are ghostly tales of judicial murder in Scotland, of adventures on the mountains round the Glen of Weeping, of generous hospitality enjoyed in Ireland, of boisterous fairs and poaching at night.

The photographs, taken by the author, are excellent. The whole get-up of the book—format, binding, paper, and print—is very pleasing. R. T. C.

The Lure of Lakeland. By E. D. Tinne. 6½×8. Pp. 64. 22 illustrations by the author. End-paper sketch map. London: Frederick Warne and Co. Ltd., 1946. 7*s* 6*d.*

A delightful little work. The beautifully coloured crayon drawings are realistic and pleasing. The text is very readable. It is a direct narrative of personal wanderings among the lakes and fells at all seasons of the year, and renders much of the haunting charm experienced by one who knows and loves the land. R. T. C.

Henley-in-Arden: An Ancient Market Town and its Surroundings. By William Cooper, F.S.A., F.R.HIST.S. 8½×5½. Pp. xii+195. 14 illustrations. 2 maps. Birmingham: Cornish Brothers Ltd., 1946. 21*s.*

The Empress Matilda, daughter of Henry I of England, granted to Thurstan de Montfort the right to hold a market at his Castle of Beaudesert. Thus was engendered in the Forest of Arden the market town of Henley, about eight miles north of Stratford-on-Avon. Its local history is interwoven with that of the heart of England. In this book is presented the history of Henley and its neighbourhood, of the lords of the manor, of fields and parks, of markets, churches, and inns, of trades and industries. There are many items of special interest, for instance, the purchase of the manor by Darwin Galton, grandson of Dr. Erasmus Darwin and brother of Sir Francis Galton.

Based on hitherto unpublished as well as on known records, this careful study is amply documented and indexed, and is also attractively produced. J. H. K.

The River Windrush. By Wilson MacArthur. 8½×5½. Pp. viii+184. 46 photographs. London: Cassell and Co. Ltd., 1946. 10*s* 6*d.*

This book is the life-story of one of the northern tributaries of the Thames, told as a description of a journey which the author made from the source of the Windrush to its junction with the main river. There are two themes: the changing character of the river itself as it grows in volume and passes through varied countryside, and the relationship of the river with the lives of those who live and have lived beside it. The narrative is sometimes overloaded with adjectives and philosophical excursions away from the riverbed, and there are no maps, but the text is well illustrated with the author's own photographs. B. D. B.

This Land of Sweden. By Prince William of Sweden. Translated by Elizabeth Kjellberg. 8½× 5½. Pp. 395. 17 illustrations. Stockholm: P. A. Norstedt och Söners Förlag, 1946. 16 *kr.*

All of these attractive essays about most of the varied districts of Sweden, from Lapland to Karlskrona, are written with obvious affection and intimate knowledge of Swedish country life and people, of ornithology and archaeology. From the tourist's point of view, the section on Gotland and the town of Visby is of great interest both in regard to history and legend and to appreciation of natural and architectural beauty.

The translation is good and in a style suitable to the subject, even if here and there words occur which are more at home in a dictionary than in daily life. The illustrations are excellent, but there is no map. A. M. L.

La Route Française, son Histoire, sa Fonction. By Henri Cavaillès. 9×5½. Pp. 399. 7 figs. Paris : Librairie Armand Colin, 1946. 370 *fr.*

M. Henri Cavaillès, after a brief introduction on 'antecedents,' makes Part I of his book an account of the royal roads radiating from the capital, Paris, from shortly before 1600 to the eve of the Revolution in politics and economy. Part II follows the developments of coaching days, and Part III reviews the part of the rail in transforming routes and transport, the 're-awakening' of the road with the automobile, leading to transport rivalries and their co-ordination.

One might say that, in writing, the author follows the roads of history through the regions of France in which the landscape, the people, and the goods they carry are always kept alive and moving. In addition, the author brings judgment in assessing cause and effect, from the seventeenth century political aim of centralisation upon the capital—of which a road map of France is so vivid a symbol—down to the rivalry of rail and road, and the policy of co-ordination now being resumed with peace. The book will interest geographer and historian, and also the British wayfarer along the roads of France. A. G.

The Matterhorn. By Guido Rey. Translated from the Italian by J. E. C. Eaton. Revised and two additional Chapters by R. L. G. Irving. 8½×6½. Pp. x+278. 37 illustrations. Oxford : Basil Blackwell, 1946. 15*s.*

No mountain in the world has attracted so much interest as the Matterhorn. The author traces man's earliest recorded contacts with the Matterhorn in Roman times, and continues with the various attempts to climb it until finally Edward Whymper and his party succeeded in 1865. Wisely he does not dwell on the accident which, although unfortunate, was incidental. He then proceeds to deal with the exploration of the other routes on the mountain, and naturally describes at length his own expeditions. Mr. Irving has added two chapters giving an account of climbing on the Matterhorn after 1918, and including the ascent of the north face by the Schmid brothers.

The author's graphic style has lost nothing in the translation. The book is profusely illustrated, many of the photographs being supplemented by diagrams ; besides well-known views, there are many photographs showing less well-known aspects of the mountain. The book is highly commended to anyone interested in mountaineering. A. H.

The Growth of Modern Germany. By Roy Pascal. 7½×5. Pp. viii+145. 11 photographs. 5 charts. 3 sketch maps. Past and Present, Vol. 2. London : Cobbett Press, 1946. 7*s* 6*d.*

The value of Professor Pascal's brief history lies not only in the clear and impartial way in which the facts are arranged but in their objective presentation. The struggle between progressive and reactionary forces has been common to all western European countries. In most, the balance has been in favour of the progressive forces. In Germany, it has been mainly against them, so that whenever democracy was in the ascendant, some streak of weakness, inexperience or disunity prevented it from becoming dominant. This is seen particularly in the time of Bismarck, Wilhelm II, and of Hitler. As Professor Pascal sees it, the solution of the German problem lies mainly in persuading the German people that there is a place for them in an integrated life of Europe, and in thus resolving the tensions which have for so long been present in their political, social and economic life. S. C. F.

The Republic of Austria 1918-1934 : A Study in the Failure of Democratic Government. By Mary Macdonald. 7¼×5. Pp. viii+165. Issued under the auspices of the Royal Institute of International Affairs. London : Oxford University Press, 1946. 8*s* 6*d.*

The history of Austria has for long been linked with that of Germany, and the failure of democratic forces to take command of the situation when opportunity occurs is as apparent in Austria as in Germany. The book under review may be taken as dealing with a detailed example of this. The Constitution of the Republic established in 1920 is given *in extenso* as an appendix. The book contains a close examination of its provisions and an account of the way in which they were gradually undermined or annulled through the interplay of conflicting political aims. S. C. F.

Under the Carpathians : Home of a Forgotten People. By J. B. Heisler and J. E. Mellon. 8½×5½. Pp. 124. 79 illustrations. London : Lindsay Drummond Ltd., 1946. 12*s* 6*d.*

When the new frontiers were drawn in Central Europe after the first world war, Czechoslovakia extended eastwards to include the part of the Carpathians known as Ruthenia, largely inhabited by peoples of Slavonic descent. The new political connections, with their economic repercussions, started a process of change in the primitive pattern of the life of the people. The recent incorporation of the province, under the name of Carpatho-Ukraine, in the Ukraine and hence in the Soviet system will accelerate the change. Before it is too late, the authors have preserved in excellent photographs and in word the memory of a simple culture which is fast disintegrating. S. C. F.

ASIA

Paysans de Syrie et du Proche-Orient. By JACQUES WEULERSSE. 9×5½. Pp. 329. 69 figs. 16 plates. Le Paysan et la Terre, No. 3. Paris : Librairie Gallimard, 1946. 360*fr.*

The late M. Weulersse's book deals in the first place with (French) Syria and, more broadly, in the second place with the rest of the 'Arab' countries from the Mediterranean to the Persian Gulf. In spite of the popular attractions of the Near East as a land of fabulous cities and picturesque nomads, camels and caravans, it is essentially rural, and the majority of the people, the core of the nations, is formed of peasants, *fellahin.* It is this sense of proportion, and of values, which this book sets out to restore and substantiate. *Paysans de Syrie et du Proche-Orient* is at once sound in geographical argument and full of sensitive appreciation of the people and of their difficulties and qualities and limitations. The work is divided into two 'books' : (I) The Conditions of Peasant Life, covering natural, historic and tenurial conditions, economy and recent evolution ; and (II) Aspects of Peasant Life, covering the traits in common, social and economic, and the regional aspects in plain, mountain, oasis, and desert edge. A. G.

Black Borneo. By CHARLES C. MILLER. 8½×5½. Pp. 220. 23 photographs. London : Museum Press Ltd., 1946. 15*s.*

Black Borneo is a popular account of a visit to Dutch Borneo in search of material for cinema film. The book contains some excellent photographs of natives, but few of the country described. The author claims to have discovered forgotten Hindu temples in the interior of Borneo, but offers neither a map indicating their location, nor photographs of the caves or the surrounding districts. C. R. V. G.

The Philippine Islands. By W. CAMERON FORBES. 8½×5½. Pp. xv+424. 31 illustrations. Map. Cambridge, Mass. : Harvard University Press ; London : Oxford University Press. Revised edition, 1945. $5.00 or 23*s* 6*d.*

This condensation of a two-volume work is a history of the Philippines between the Spanish-American war and 1940. The Philippines are unique among colonies, since they present the only instance of a colonial power directing from the very outset all its efforts towards a withdrawal at the earliest possible moment. Americans can indeed be proud of their country's record in this archipelago. One very attractive feature of the American régime has been the enlightened labour policy. British admiration for what the United States has done in the Philippines should, however, be tempered by the realisation that no other colonial power has ever had at its disposal, for the development of a single territory, either such a huge population from which to draw administrative and other talent, or such financial and other resources. C. R. V. G.

A Presença de Portugal em Macau. By ANTÓNIO DA SILVA REGO. 8¾×6¼. Pp. xiii+111. Lisbon : Agência Geral das Cólonias, 1946.

The Portuguese began traffic with China early in the sixteenth century. In 1557 they settled in Macao, with territorial rights whose precise nature is hard to determine and of which Senhor da Silva Rego gives an objective discussion, incidentally sketching, from its inception to modern times, the story of this interesting colony, for centuries the chief entrepôt of European trade with the farthest East, and, as he says, the meeting point of two contrasted civilisations. Portuguese possession was guaranteed in 1887 by a treaty with the Chinese, but the coming of other Western powers in the nineteenth century diminished the commercial importance of Macao.

This is one of a number of valuable works on Portuguese colonial enterprise issued by the Agência Geral das Colónias. It comprises a useful bibliography. H. C. M.

Asia on the Move : Population Pressure, Migration, and Resettlement in Eastern Asia under the Influence of Want and War. By BRUNO LASKER. 8½×5½. Pp. xiii+207. End-paper sketch maps. New York : Henry Holt and Company Inc., 1945. $3.00.

Following a brief introduction on land and population, there is outlined the impact of war upon natural migration in South-East Asia, China, and the 'Soviet Far East—Japan.' The author continues by tracing international migration from west and south (including South China) and from Northern China, Korea and Japan, and Europe. Prospects and policies of migration beyond Asia, and temporary measures of relief, are then discussed, and the book concludes with an appeal for the need of concerted planning.

Popular and readable, the book has a considerable background of study made under the auspices of the Institute of Pacific Relations. It is an example of the capacity of Americans to think and write boldly, to venture upon forecast, and to consolidate individual research by team work. A. G.

AFRICA

The Northern Goldfields Diaries of Thomas Baines. Edited by J. P. R. Wallis. 10×6¼. Vol. I. Pp. xxxviii+1-278. 9 illustrations (colour and half-tone). 2 maps. Vol. II. Pp. viii+279-598. 12 illustrations. 1 map. Vol. III. Pp. viii+599-855. 8 illustrations. 2 maps. Government Archives of Southern Rhodesia : Oppenheimer Series, No. 3. London : Chatto and Windus, 1946. 90*s* per set of three volumes.

In the rapid growth and development of a young colony, the work of those who pioneered and worked with the highest motives—often with scant reward—are frequently forgotten. The Government of Southern Rhodesia are not guilty of any such neglect, since they established, in 1935, an Archives Department which has from time to time issued volumes dealing with its early history. In these volumes we have a further instalment of the Oppenheimer Series. The Northern Goldfields of which they treat are the territories lying on the south bank of the River Zambezi, from the Victoria Falls to the Portuguese boundary near Tette. From the fifteenth century, gold was known to be found there, and in historical romance King Solomon's mines had even been sited there. But nobody bothered much about it till, in 1867, a geologist named Carl Mauch discovered gold in the Tette region, which created great excitement in South Africa, and prospectors, traders, and others went north allured by the reports of rich finds.

Thomas Baines, who had been with Livingstone on the Zambezi, had travelled across Africa with Chapman from west to east, had been in Northern Australia on exploratory work, happened to be in England at this time and was offered the leadership of an expedition by a London Company to secure a concession. This he readily accepted and, in company with a mineralogist, set out on the expedition. The mineralogist resigned soon after on learning that the Company's object was only to secure a concession but that no development work was to follow. Baines, nevertheless loyal to his commission, proceeded to the northern fields and was received by the Matabele king, who gave his permission to Baines and to the Company the right to dig and take away gold on one condition only : that the king retained his sovereign rights in the land. Content with the knowledge that the king's word was his bond, Baines returned to Natal and reported to his Company. But the London Directors were dissatisfied, and asked him to get from Lobengula a properly drawn up and signed deed in their favour. In this he succeeded, only to learn on his return to Natal that the London Company had been reconstituted with powers to undertake mining operations, but that they had repudiated the debts of the old Company, and had failed in their flotation. Again he was left to pay personally the expenses he had incurred.

Such in brief is the period covered by the *Diaries*. If Baines was not in the front rank of explorers, he at all events shared many of their gifts and qualities, courageous and painstaking, honest and friendly in his dealings with Europeans and natives alike, loyal to those for whom he worked and even to those who abused his trust. No fevered blood of the gold seeker coursed through his veins, but he did want to see the opening up of the gold fields, and he did this from no mercenary motive, for, as he wrote to his sister, " I must either be justly proud of my work or not ashamed of my failure." He did not fail. The failure must be laid on the doorstep of the Company who had so miserably failed him.

All through his career in Africa and elsewhere, he proved himself to be a keen observer, and in his copious diaries, whether as naturalist, artist, geographer or writer, he provides information on a variety of subjects, and impresses one with a sense of tireless and industrious activity. It is good to know that even at this late date the contribution made by Baines has at last received just recognition, and Mr. Wallis is to be congratulated on a masterly introduction of a man among men—honest Thomas Baines. J. R.

AMERICA

Quebec : Historic Seaport. By Mazo de la Roche. 8½×5½. Pp. xii+212. 17 illustrations. London : Macmillan and Co. Ltd., 1946. 12*s* 6*d*.

This book is of great interest to both geographer and historian. To the lay reader it is written in a lively and arresting manner, with much colourful description of the customs of the times, and one feels that the author has taken a vast amount of trouble to collect and put together the records of history which make her story ring with the sincerity of a good job well done.

Quebec, as the oldest and most picturesque seaport on the American continent, has right to be ' the centre-piece ' in Canada's remarkable history of early settlement, gradually accomplished over a long period of titanic hardship and many adversities. We, both British and French, may look to-day with awe and pride, and wonder, on the remarkable endurance of forebears who went forth in sailing ships, on unknown seas, with rough gear and scant enough provisions, buoyed up with almost fanatical courage, and considerable religious belief, that the world could not be conquered without much sacrifice and stupendous effort. We can picture Cabot, who sailed westward from Bristol in 1497, sponsored by King Henry

VII of England, or Cartier, who set out from St. Malo in 1534, with the support of King Francis, and feel that such gallant men would surely turn in their graves if they knew that the voyages which took them months of hardship and endurance to accomplish, can to-day be completed by aircraft in less than twenty-four hours.

A most interesting book, heartily recommended. Numerous illustrations add to its attractiveness. A. B.

AUSTRALASIA

Soil Erosion in Australia and New Zealand. By J. Macdonald Holmes, ph.d. 9½×7¼. Pp. 296. 63 figs. 62 plates. Sydney and London : Angus and Robertson Ltd., 1946. 17*s* 6*d*.

Students of the soil erosion problem throughout the world should welcome this account of conditions facing the pastoralist and agriculturist in Australia and New Zealand, as presented by Professor J. Macdonald Holmes and his staff of the School of Geography in the University of Sydney. Incidentally, soil erosion in New Zealand is lightly touched upon,[1] the book being devoted mainly to aspects of the problem met with in New South Wales and Central Australia.

The author treats his subject broadly from a geographical standpoint. The descriptions, discussions, and recommendations are clear and well calculated to appeal to the general reader who takes an interest in aspects of nature.

Part I deals with first principles about soil and rainfall, Part II with control of soil loss and water loss by prevention of rapid run-off. The chapters in Part II are of special importance. Not content with merely studying soil erosion and stating its disastrous effects, the geographers of Sydney have devised and carried out counter measures as nearly as possible under natural conditions. The apparatus employed and the labour and costs involved have been kept at a minimum, so avoiding, as far as possible, that bane of so many schemes of soil rehabilitation—expense far beyond the means of the cultivator. In consequence, those who live on and by the land might be expected to give the measures suggested a fair trial.

Part III treats vividly the conditions in central and marginal central Australia, while Part IV includes the author's conclusions and suggestions, including corrective measures by State Parliaments and Government Departments.

In Chapter XIV are discussed objectively some of the more spectacular schemes for the redemption of thirst-land—as, for instance, by reversing the eastward flow of some of the Queensland rivers, or, by flooding the Lake Eyre basin, if necessary, from the sea. No doubt some of these schemes will be attempted after due controversy. If so, the efforts of a resolute and sporting people to conserve their precious soil and water supply will be followed with sympathetic interest by friends across the sea.

The maps, diagrams, and photographs are clear and cogent, the printing and general set-up extremely satisfactory. R. M. C.

[1] [Cf. *Soil Erosion in New Zealand*, by K. B. Cumberland. Review : *S.G.M.*, 1947, 63 (*1*) : 43. Ed.]

POLAR REGIONS

Bibliography of Bibliographies on the Arctic. By Rev. Artheme Dutilly, o.m.i. 10×7. Pp. 47. Map. Washington, D.C. : The Catholic University of America, 1945. $1.00.

Two major faults reduce the value of this compilation. One is the inclusion, without any apparent system, of some general library catalogues, some geographical and other journals, and even a few booksellers' lists. This *Magazine* is entered twice on the same page ; *The Geographical Journal* appears to have no place after 1893. These random entries cannot be of value : every general library may have one or two well-known Arctic volumes, but the serious student turns to definite collections. The second sin is that of omission. A few important entries that we miss are : G. Horn and A. K. Orwin on Bear Island, A. Hoel and others on Spitsbergen coal mining, G. Horn on Franz Josef Land, and G. Smedal on sovereignty of polar regions—all in *Skrifter om Svalbard*—and K. Birket-Smith or E. M. Weger on Eskimos in their books of that title. A list of Arctic ships is incomplete and has some errors. R. N. R. B.

Life on an Icefloe. By Ivan Papanin. Translated from the Russian by Fanny Smitham. 9×6. Pp. 240. 20 photographs. Map. London : Hutchinson and Co. (Publishers) Ltd., n.d. 18*s*.

The Soviet North Pole expedition of 1937-38 was marked by great daring and skilful organisation. Flying from a base in Rudolf Island, Franz Josef Land, to the Pole, the four explorers drifted with the transpolar current until, eight months later, they were picked up by an ice-breaker in about lat. 70° N. They were in regular touch with Franz Josef Land by radio, but in spite of that the risks were considerable. In this book we have the leader's diary and all too little of the valuable scientific results. It will remain, however, a classic of polar travel. Papanin is an outstanding figure in the long arctic story. R. N. R. B.

EDUCATIONAL

The Raw Materials of the World. By J. Gentilli. Foreword by Dr. G. L. Wood. $7\frac{1}{4}+4\frac{3}{4}$. Pp. xi+306. 50 diagrams. 48 maps. Sydney, Melbourne, Perth: Whitcombe and Tombs Pty. Ltd., n.d. 8*s* 6*d*.

"This book aims at giving the man in the street a key to world resources at a time when so much talking goes on about planning on a world-wide scale." The book is planned in two parts: The Environment—a study of the characteristics of the main climatic divisions of the world; and The Development—a study of the world's main products and the factors affecting their production and distribution.

The book is well worth reading, but will appeal more to the student of geography than to the man in the street. The diagrams are very good, and there is an ample index.

J. Y. E.

Fundamentals of Economic Geography. By Nels A. Bengtson and Willem van Royen. 9×6. Pp. xxvii+802. 299 maps and illustrations. New York: Prentice Hall Inc. Revised edition, 1946. $6.00.

This, the sixteenth printing of a work that originally appeared in 1935 and was revised in 1942, is designed to furnish subject-matter for an introductory course. The authors, while admitting the difficulties of producing a text-book of economic geography in the middle of a world war or even for some time after, believe that "by developing a general understanding of the importance of material resources, climatic, and other geographical conditions . . . a sound basis can be laid for the construction of an enduring peace."

The emphasis is on elemental resource factors, and the treatment is general and comparative rather than regional. As the book is intended for students approaching economic geography without a previous knowledge of other aspects of geography, its first fifth is devoted to a brief but suggestive outline of generalities, while out of the three hundred and thirty pages devoted to a joint discussion of climate and agriculture—the largest section of the book—over a hundred are given to the elements of climate. Minerals and power, forests and fisheries, manufactures and commerce occupy the remainder of the space. There are references at the end of each chapter and an excellent bibliography designed for the needs of more advanced students. The authors find space for occasional short discussions of the bearing of geography on policy. Altogether the book would provide a student reading for, say, a degree in commerce, an ample background on the geographical conditions of production.

C. J. R.

GENERAL

Dating the Past: An Introduction to Geochronology. By Frederick E. Zeuner, d.sc., f.z.s., f.g.s. $8\frac{1}{2}\times5\frac{1}{2}$. Pp. xviii+444. 24 plates. 103 diagrams. London: Methuen and Co. Ltd., 1946. 30*s*.

Space does not permit of more than a brief note of the main contents of this important book. The author defines Geochronology as "the science of dating in terms of years those periods of the past to which the human historical calendar does not apply. It covers human pre-history as well as the whole of the geological past." The purpose of the book is to bring to bear on the problem of earth history evidence from all available lines of research.

The chapters in Part I deal with tree-ring analysis (the counting and correlation of the annual growth rings as seen in transverse sections of trees), as a means of dating early historical and prehistorical sites and dwellings, especially in North America. The trees have written a fascinating history not only of their own life story but also of climatic variations and cyclic changes in solar radiation. A reliable calendar, covering 1500 years, has been established for dwelling sites in south-western U.S.A. In addition, tree-ring countings, which cannot yet be correlated with prehistoric phases in a satisfactory manner, extend back for 1900 years in Arizona and for more than 3000 years in California. On this part of the subject the author follows the work of Douglass.

In Part II, the dating of the Metal Ages and the New and Middle Stone Ages and of the fluctuations of climate which followed the Ice Age is attempted by counting and correlating varves (annual deposits in glacial lakes), a method developed by de Geer and, in later years, by Sauramo and Anteus. The difficulty of correlating varve series in widely separated localities is frankly stated. Even so, the record has been carried back, in Europe at least, about 15,000 years and includes the dating of peat beds, old beaches, and human remains associated with them.

Part III is concerned with the chronology of the Old Stone Age, the phases of the Ice Age itself, and the inferred contemporary pluvial periods of warmer countries. Evidence from geology and palaeontology is clearly stated, and an attempt is made to correlate this record with evidence of variation in solar radiation received by the earth based on astronomical calculations of the periodicity of known perturbations of the earth's orbit. There-

after the author frames a chronology of the Palaeolithic in Europe, including Britain, and extends his comparisons to the Mediterranean area, to N, E, and S Africa, Asia, Australia, and America, carrying the record back about one million years.

Part IV deals with the dating of events in the history of the earth before the advent of man which, apart from estimates by geologists and palaeontologists, is now based firmly upon the 'radium clock'—the known rate of decomposition of radio-active substances. By this method it has been possible to calculate the age, in years, of accessible rocks of the earth's crust up to and beyond 1500 million years. Chapter XII of this part deals with biological evolution and time in the light of this evidence.

The immense amount of research involved, the lavish bibliography arranged conveniently by chapters, and the elaborate index make this book one for the student. But the ordinary reader, and there are many such, who takes an interest in some branch of natural science, is sure to find within its pages something bearing on his special subject, and the writing is so clear that the author's meaning is never in doubt. For the student of geochronology the book is fundamental.

The maps, diagrams, and tables necessary in such a work are clear, and the production is excellent. R. M. C.

Ports of the World. Edited by Sir ARCHIBALD HURD. 8×5½. Pp. xxxiv+1065. London: The Shipping World Ltd., 1946. (Post free) 30*s*.

Formerly amalgamated with *The Shipping World Year Book*, *The Port Directory of the World* has now been completely revised and reset as a separate publication. Particulars of the location, population, imports and exports, accommodation, pilotage, etc. concerning the various ports are arranged in two sections. The first deals with ports in the United Kingdom and Ireland, and the second, with Dominion, Colonial, and foreign ports. For obvious reasons, details relating to ports in Germany and the Far East could not be accurately revised for the present edition.

Certain ports are necessarily treated in much greater detail than others. The term port is used in a wide sense and includes the promenade pier at Redcar as well as Clyde piers, such as Innellan and Keppel (but not Craigendoran). Pettycur and Pittenweem are not omitted, and North Berwick appears as Berwick North.

Although primarily intended for all who are concerned with the management of ships, this notable work of reference will prove to be of value to economic geographers. J. H. K.

Snow on the Hills. By F. S. SMYTHE. 12½×10. Pp. 119. 47 plates. London: Adam and Charles Black Ltd., 1946. 20*s*.

The public expects to find in any book by Frank Smythe subjects chosen by the eye of an expert and treated with skill, and in this book they will not be disappointed. The author prefaces the illustrations with two chapters on the Beauty of Snow and its photography. He has interesting things to say on equipment, lighting, and composition which may be studied with profit; but however much they may study the technique of photography, few amateurs will equal his skill.

The book is divided into four parts: British hills, the Alps, the Canadian Rockies, and the Himalayas. The photographs of the Rockies are scarcely as pleasing as the others. There are some wonderful cloud effects in the Himalayan camera studies. This is a worthy volume in his series of mountain photographs. A. H.

ATLASES

The Compact Atlas of the World. By JOHN BARTHOLOMEW. 6¾×4¼. Pp. xvi+128+30. Edinburgh: John Bartholomew and Son Ltd. 2nd edition, 1945. 6*s*.

Coloured maps of continents and their climates, of countries, of towns and areas of particular interest, and, in addition, statistics and a gazetteer index, form a compact volume, attractively bound, which ought to have a very wide circulation. J. H. K.

Bacon's All Essentials School Atlas, containing maps showing contours, isobars, isotherms, rainfall, vegetation, population, productions, communications, political boundaries, etc., and a complete alphabetical index to names. 9¾×7¼. Pp. 47. Edinburgh: G. W. Bacon and Co. Ltd., [1946]. 3*s* 6*d*.

This will prove a welcome atlas for school and general use. It has incorporated in it some of the features of more expensive atlases—for instance, the name of the projection on which the map is drawn, an inset on each map of the relative size of Britain, the marking off in lettered squares for reference purposes, etc. Longitude and time are related on all maps, and the length of a degree of latitude is marked on the parallels. All these will be found useful in class teaching. It may be that too much has been inserted in some of the maps and that the representation of altitude by shades of grey, instead of colour, is a drawback, but one cannot get everything at such a price. J. Y. E.

ROYAL SCOTTISH GEOGRAPHICAL SOCIETY

PROCEEDINGS

MEETINGS OF COUNCIL were held on May 27th and July 15th and 29th 1947.

Obituary.—Mrs. RALPH RICHARDSON, an Honorary Member, died on 18th June in her 91st year.

Her husband was one of the founders, in 1884, of this Society and served as Honorary Secretary for over forty years. Like so many other Members of Council, he was a distinguished member of the Writers to the Signet and gave freely of his time, energy, and conspicuous ability to our affairs. His great desire was to increase the interest in geography and that Edinburgh should take a leading position in this science.

ALFRED ERNEST MAYLARD, M.B., B.S., F.R.S.E., long resident at Kingsmuir, Peebles, died on 27th June in his 93rd year. He joined this Society in 1905, was a Member of Council from 1906 until 1913, when he was appointed Vice-Chairman of the branch in Glasgow. Later, he was elected Chairman and, in 1924, a Vice-President.

It was a privilege to know Dr. Maylard. He had many of these graces that are denied to some of us. A consulting surgeon at the Victoria Infirmary in Glasgow, he found time to interest himself in many activities—as President of the Scottish Mountaineering Club, a member of the Alpine Club, and in the various activities of the Old Parish Church in Peebles.

Gift.—Miss HILDA NEWBIGIN presented to the Society the Livingstone Medal awarded to her sister in 1923. She intimated that she was the last of the family and that she did not wish the Medal to pass on to an outsider, and did therefore decide to return it to the Society with which her sister was connected for so many years. She left the use to be made of the Medal to the decision of the Council.

Miss Newbigin was heartily thanked for her generous gift, and it was agreed that the Medal be converted into gold and the money put into the Newbigin Fund.

Awards.—The Scottish Universities Medal was awarded to KENNETH WARD, for distinguished work in the Junior Honours Class, 1946-47, Glasgow University; JOHN INNES CLARKE, First Place, Ordinary Class, 1946-47, Aberdeen University; A. T. A. LEARMONTH, First in Geography, First Course, 1946, and in Geography, Second and Inter-Honours Courses, 1947, Edinburgh University.

EARLY SCOTTISH MAPS AND TRAVEL

An exhibition is being held in the Society's Rooms until October 5th 1947 displaying some of the maps and books in the Society's collection. The exhibition was opened on August 21st.

NEWBIGIN PRIZE: 1948 AWARD

A Bronze Medal and Money Prize will be awarded for the best Essay, suitable for publication in *The Scottish Geographical Magazine* and not exceeding 7000 words in length, on any subject relating to the geography of Scotland.

Essays, in envelopes marked 'Newbigin Prize,' must be lodged with the Secretary, Royal Scottish Geographical Society, Synod Hall, Castle Terrace, Edinburgh 1, on or before October 31st, 1948.

NOTICE

The Scottish Geographical Magazine.—Notwithstanding a gratifying response to previous appeals, spare copies of the Magazine are still required: for instance, Vol. 58, No. 1, Vol. 62, No. 3, and other numbers issued since 1938.

Will members who are able to spare any copies very kindly forward them to the Secretary.

LECTURE SESSION, 1947-1948

OCTOBER–DECEMBER 1947.

EDINBURGH, *Usher Hall.*

EVENING MEETINGS, at 7.30 P.M.

October 16th. THE PRESIDENT, on "Transcontinental Travel by a Geographer." Illustrated.

Professor ALAN G. OGILVIE, O.B.E., M.A., B.SC., has held the Chair of Geography in Edinburgh University since its institution in 1931.

November 13th. Air Chief Marshal Sir PHILIP JOUBERT, K.C.B., C.M.G., D.S.O., on "Air Photography in Peace and War." Illustrated. Commander-in-Chief of Coastal Command in the earlier part of the war, he was appointed Inspector-General of the Royal Air Force in 1942.

December 4th. Surgeon-Commander E. W. BINGHAM, R.N., on "Recent British Activities in the Antarctic." Technicolour Film and Slides. Leader of the Falkland Islands Dependencies Survey Expedition in 1946 and 1947, he was formerly with Rymill in Graham Land in 1934-37 and with Watkins in East Greenland in 1930-31. He has also travelled in Labrador.

Lothian Road Church Hall.

AFTERNOON MEETINGS.—Wednesdays, at 3 P.M.

October 22nd. HAROLD SKELTON, on "Mediterranean Gateways." Illustrated.

November 5th. Capt. PETER M. CRAN, O.B.E., B.SC., M.I.C.E., on "Island of Cyprus." Illustrated.

November 19th. Rev. JOHN W. ARTHUR, O.B.E., D.D., M.D., F.R.G.S., on "The Mountains of Kilimanjaro and Kenya." Film and Slides.

November 26th. Dr. PATRICK W. R. PETRIE, O.B.E., M.B., CH.B., on "The Land of Uz (Southern Arabia)." Illustrated.

December 3rd. Professor V. C. WYNNE-EDWARDS, M.A., F.R.S.C., on "By Canoe down the Mackenzie River." Kodachrome Film.

December 17th. ARCHIBALD T. DOLLAR, B.SC., PH.D., F.G.S., on "Lundy." Coloured Slides.

The Society's Rooms.

GEOGRAPHICAL PAPERS.

A third series of meetings is planned for the coming session at times to be announced later, probably monthly at 5 P.M., in the Society's Rooms. These meetings will normally include a discussion, and they are intended to provide a field not only for trained geographers but for thinkers in cognate subjects and for men of affairs who have a contribution to make to geographical thought.

The opening meeting, on October 31st, at 5 p.m., will be addressed by Professor ALLIX, Principal of the University of Lyons.

Synod Hall.

FILM SHOWS FOR YOUNG PEOPLE, at 10.30 A.M.

Saturday, December 20th.
Friday, December 26th. } The British Commonwealth.

GLASGOW, *Lyric Theatre*, at 7.30 P.M.

October 13th. THE PRESIDENT, on "Transcontinental Travel by a Geographer." Illustrated.

November 12th. Air Chief Marshal Sir PHILIP JOUBERT, K.C.B., C.M.G., D.S.O., on "Air Photography in Peace and War." Illustrated.

December 5th. Surgeon-Commander E. W. BINGHAM, R.N., on "Recent British Activities in the Antarctic." Technicolour Film and Slides.

ABERDEEN, *Y.M.C.A. Hall*, at 7.45 P.M.

October 23rd. The Rt. Hon. LORD WAKEHURST, K.C.M.G., on "Australia." Slides and Film.
Governor of New South Wales from 1937 to 1946, and the author of "Colonsay and Oronsay in the Isles of Argyll."

November 25th. GEORGE TAYLOR, D.SC., F.L.S., F.R.S.E., on "British Museum Expedition to the Mountains of East Africa." Illustrated.
In 1928 Dr. Taylor visited South Africa and Rhodesia on a plant-hunting trip, and in 1934-35 was joint leader of the British Museum Expedition to the Mountains of East Africa. He was a member of a private expedition to SE Tibet in 1938.

December 9th. THE PRESIDENT, on "Transcontinental Travel by a Geographer." Illustrated.

DUNDEE, *School of Economics Lecture Hall*, at 7.30 P.M.

October 22nd. The Rt. Hon. LORD WAKEHURST, K.C.M.G., on "Australia." Slides and Film.

November 26th. GEORGE TAYLOR, D.SC., F.L.S., F.R.S.E., on "British Museum Expedition to the Mountains of East Africa." Illustrated.

December 10th. THE PRESIDENT, on "Transcontinental Travel by a Geographer." Illustrated.

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